macdonald FARM & HOME journal

Beef Cattle Nutrition . . . page 5

Review '63, Outlook '64 . . page 13

January, 1964

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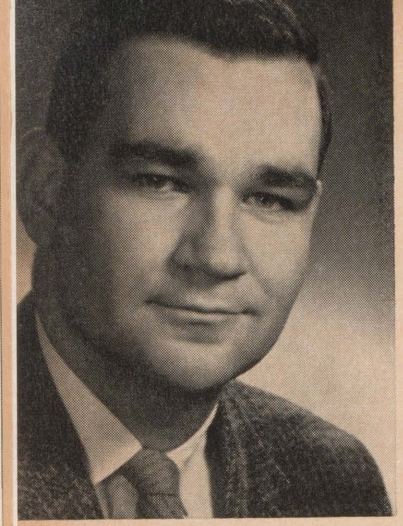


INSIDE

THE EDITOR'S COLUMN

In Memorial: Dr. M. A. MacDonald

A FRONTIER is a place where there doesn't seem to be a boundary; where one can push on, explore, develop, start new growths, and revitalize old wastelands. Dr. Allan MacDonald was just such an explorer. He passed away at his home at Macdonald College on January 3rd, 1964. At 38 years of age he had only started on what had already been a dedicated career in his chosen field of animal science.

Dr. MacDonald was born in British Columbia and attended the University of British Columbia where he obtained his Bachelors and Masters Degrees in Agriculture, graduating with first class honours. His Ph. D. was awarded him in 1953 by Oregon State College.

Following graduation from Oregon, he became a research officer in agriculture at Hamilton, New Zealand. In 1956, he returned to Canada to study on a National Research Council post-doctorate fellowship at the University of Saskatchewan. In 1957, he was appointed research officer at the Lethbridge Experimental Farm and in 1958 joined the staff of the Faculty of Agriculture at Macdonald College as a Professor of Animal Science specializing in animal physiology.

During his short career, he published more than fifty scientific papers and was recognized as one of the leaders in the agriculture profession. At the time of his death, he was president of the Macdonald Branch of the Agricultural Institute of Canada.

Dr. MacDonald was a friend to every student who attended Macdonald in the last five years. He was a guiding light for the post-graduate students in Animal Science. He was a loyal member of the Faculty.

He leaves his wife, Marion and two young children, Alex and Archie. His mother is in British Columbia.

Readers of the Macdonald Journal know Dr. MacDonald as a regular contributor. In this issue, his most recent writing on beef cattle nutrition is his last. His friendly and co-operative spirit will be greatly missed by his family, by the staff and students of Macdonald College, by his many business associates, and by the agricultural community in Canada.

His life, though short, was productive. He will be sadly missed. Our sympathy is extended to Dr. MacDonald's family.

Mark Waldron

BEEF CATTLE NUTRITION . . .

Now And In The Future

Part 2

by Dr. M. A. MacDonald, Professor of Animal Science, Macdonald College of McGill University

Cattle ranching in western Canada requires a complete understanding of the nutrient requirements for beef cattle. Photo courtesy of the National Film Board, scene from the film "Cattle Ranch".

NOW, LET US TURN to more specific points of change if not necessary progress in beef cattle nutrition :

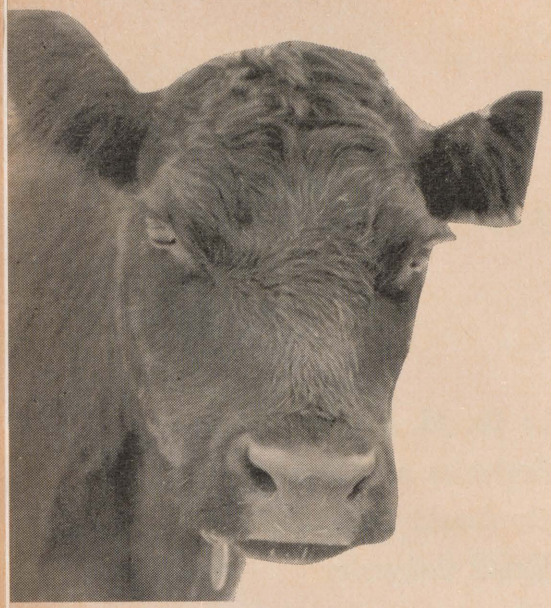
1. Protein.

Knowledge that protein quality is not of great importance in feeding cattle led to an increasing use of non-protein nitrogenous products of which urea is the one most extensively used. Several other somewhat similar products are being studied but to date, have not been used commercially to any extent. Protein content and quality are important in young calves, but become less important as the feeder increases in weight and age. Urea is unpalatable to calves, hence should be used sparingly until animals are of reasonable weight (approximately 600 pounds liveweight). Furthermore, since it is a shiny crystal unless powdered, it and other micro-elements tend to sift toward the bottom of a load when meals are shipped in bulk and unpelleted.

Weed screenings are another underrated source of protein that may be used where additional energy and protein are desired at low cost. For some years, it was considered undesirable to feed screenings but experimentation has shown the manner in which it may be used successfully.

2. **Energy.**

Numerous studies have been and are being made to determine ways to increase the availability or rate of passage of roughages to increase rate and efficiency of gains in beef cattle. Processes such as chopping, grinding and pelleting have been studied by many and the following generalization appears in order. These processes reduce the size of roughage particles, increase caloric density and surface area permitting greater rate of passage through the digestive system. During pelleting, the material treated heats because of the high pressure to which it is subjected. Heating results in some chemical changes, generally increasing rate and efficiency of gain from pelleted over non-petteled roughages but generally no improvement from pelleting high concentrate rations. It has been suggested that pelleting also changes the volatile fatty acid ratio and amounts released by the rumen microflora. Therefore, the ratio of lean meat to fatty tissue deposited during growth may be altered according to the feed used and the manner in which it is presented to the animal. Similarly, with concentrates such as corn, steaming increases rates o fgain. In one study in the United States, it was possible by grinding hay and steaming corn to increase rate of gain per day 144 pounds (2.44 vs 2.00) on 77.7 pounds less per 100 pounds gain, an increase in feed efficiency of 15.3%. The ratio of hay to concentrate was approximately 1:1. Greater gains might be expected with a higher proportion of concentrate. However, when roughages are cheap, it may be more economical to use larger amounts of ground roughage for fattening along with small amounts of steam-heated or cooked concentrate. It seems the old



timers who insisted on feeding boiled barley had something besides a vitamin D deficient feed.

More and more emphasis is being placed now on better methods of energy utilization in beef cattle nutrition. In general, beef cattle are more frequently energy deficient than protein deficient hence current emphasis on that phase of research. The experimental changes cited are dependent upon altering the amounts of volatile fatty acids produced in and absorbed from the rumen. Since more or less fattening in an animal may be influenced by such alterations of feedstuffs, progress in volatile fatty acid research is of interest to all beef producers.

3. **Vitamins.**

In beef cattle nutrition, vitamins A, D and possibly E are of importance. However, recent experimentation has shown a vitamin E replacing effect by selenium and beef animals are exposed to sunshine more frequently than farm animals which are confined indoors during long winter periods. It is safe to say that Vitamin A Deficiency is the major, in fact over-riding vitamin problem in beef cattle nutrition. Where cereal grains, other than corn, are fed with bleached hay or straw to cows or feedlot animals which were brought in from dry ranges, beef producers face two deficiencies, those of Vitamin A and calcium. It is hardly necessary to describe to Western beef cattle producers the symptoms of Vitamin A deficiency in beef cattle production; a deficiency that may be prevented easily for a cost of about one cent per animal per day and little or no extra labour.

4. **Minerals.**

The minerals most commonly used by beef are the components of salt, namely sodium and chlorine. Salt is usually fed free choice to beef cattle, hence they often consume more than the requirements listed by the U.S. N.R.C., especially if available as loose rather than as block salt. Salt requirements of full fed beef will be met if it represents 0.5 percent of the total ration. Salt deficiency results in an abnormal appetite for salt or salty tasting substances. It is for this reason that salt hungry cattle on range seek many poisonous plants. A prolonged salt deficiency results in lack of appetite unthrifty appearance and weight loss. Excessive intake results in toxicity. Salt is also used to control supplemental feed intake and to expell urinary calculii, provided an abundant supply of drinking water is available.

Calcium and phosphorus requirements for beef cattle are based on the need of animals and micro-organisms as indicated previously. Phosphorus deficiency in beef cattle is widespread throughout the world particularly in acrid or semi-acrid areas where mature forages and periods of subsistance are common. Symptoms of phosphorus deficiency include lack of appetite, reproductive failures, poor rate of gain, wood and bone chewing and rickets in young calves. Western Canada is an area in which calcium deficiency is prevalent whereas in the rest of the world it is comparatively rare. The symptoms of calcium deficiency are comparatively inconspicuous. In deficient animals fractures are common, rate of gain is reduced.

In specific deficiency areas, magnesium, potassium, sulphur, iodine, iron, copper and cobalt are among the commonly required minerals included among the ingredients of mineral supplement mixtures. There is no advantage to provide excesses of these minerals.

5. **Antibiotics, Hormones and Tranquilizers**

During recent years, certain materials such as antibiotics, hormones and tranquilizers have been proven capable of enhancing growth rate and/or feed efficiency depending upon the conditions under which they were used.

Antibiotics

Antibiotics were introduced to cattle rations more slowly than to those of swine and poultry. Two broad spectrum antibiotics (chlortetracycline and oxytetracycline) have been found to be fairly beneficial in improving rate of gain, feed efficiency, carcass quality and general health status. However, results have not been consistent and some caution must be used when recommending the general use of antibiotics in cattle feeds. It is preferable to use antibiotics in feed during periods of stress when sub-clinical infections may potentially rise to clinical levels. Such times include starting feeder calves, during severe storms and prior to shipping animals long distances to slaughter. In short, antibiotics should be used as preventative measures for short durations rather than as a long tissue correction for poor management.

Hormones

Several hormones are closely related to various growth processes in beef cattle. Some hormones increase the juvenile or high nitrogen retaining portion of the growth process which results in increased growth rate of lean meat or muscle. Others have the opposite effect causing a slowing of growth, reduced nitrogen retention and excessive fattening at light weights. Some hormones are too expensive to use, some are relatively unavailable and others produce undesirable side effects such as coarse grained dark meat, poor fat covering or too much fat covering, prolapse of the uterus or rectum, high tailheads, crest development, udders, or heavy forequarters in cattle if the treatment level is too high. Diethystilbestrol implants at low levels or in feeds at higher levels during a feeding period and combinations of natural hormones (Synovex) in implants have increased rates and efficiencies of gain which are often well in excess of 10 percent consistently where the plane of nutrition has been good. A very large proportion of feeder animals in North America are now either fed or implanted with these hormones.

Tranquilizers

Tranquilizers are a group of drugs which allay anxiety or tension without necessarily deadening pain or inducing sleep. Some of the uses of tranquilizers are as follows: reduction of shipping shrinkage, bruising and dark cutting

meat, reducing tension in animals at weaning, dehorning, clipping, branding, castration, etc., pacifying dams at parturition, and increasing rate and efficiency of gain in feedlot animals. It is safe to say that in general, available tested tranquilizers have not been nearly as effective as hormones in the last listed uses, providing average rates and efficiencies of gain of about 5 percent when included in feeds.

Predictions of the Beef Animal of the Future and How it will be prepared for Market.

Professors enjoy, and at times, abuse the priviledge of academic freedom by insisting on proposing events of the future. Fully conscious that this writer is not fey, academic freedom permits some proposals or predictions regarding future trends in beef cattle nutrition and feeding practice.

Because of technological advances, beef animals of the future will be rapidly gaining lean animals of large size and high feed efficiency. Public preference is moving steadily toward lean meat. Critics who claim beef must be well marbled and hung for an extensive period for carcass maturation are ignoring intensive research programmes elucidating the role of enzymes and temperature in the tenderization of meat as well as ignoring the fact that that now carcasses are not hung for extensive periods in most parts of Canada.

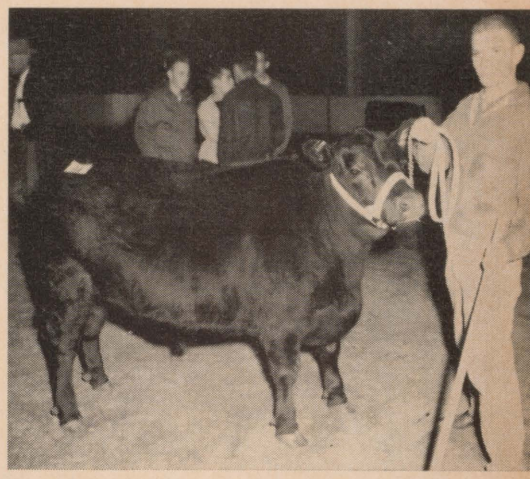
Sires of these animals of the future will be the result of systematic cross-breeding programmes that utilize the advantages of hybrid vigour and performance tested sires. Such programmes will include bulls from breeds that originated from much more diversified biological bases, hence capable of contributing more toward utilization of hybrid vigour than those breeds customarily used in Canada. The preponderance of animals in feedlots will be male, (non-castrated) because, as they are doing now in Britain, bulls will be full fed and slaughtered at a year of age weighing 1000 pounds plus or minus a 100 pounds with a feed efficiency advantage over steers of 15 to 30 percent. Such a programme under Canadian conditions requires *ad libitum* feeding and a change in our grading regulations. The question must be asked of research people: how can there be a preponderance of bulls in a potential feedlot population and why should such a preponderance be sought?

It is well known and was previously mentioned that in most species of farm animals the male and castrate male grow more quickly and produce carcasses with a higher lean to fat ration than females. On a high plane of nutrition the beef heifer begins to fatten differentially at 450 pounds liveweight, while bulls of similar genetic origin do not reach the same stage of growth hormone — ACTH influence until they weigh approximately 700 pounds. In the future, we may expect that through changes in diet, selection pressure, centrifugation, electro-phoresis, alteration of blood pH and other methods, semen may be separated into sex dominant alequots. In these ways, it will be possible to increase the percentage of the sex of the meat animals that will yield the sex which will produce animals containing high proportions of lean meat relative to fat. We will also see a trend from castration to produce lean animals that reach desired market weights before secondary sex characters become evident.

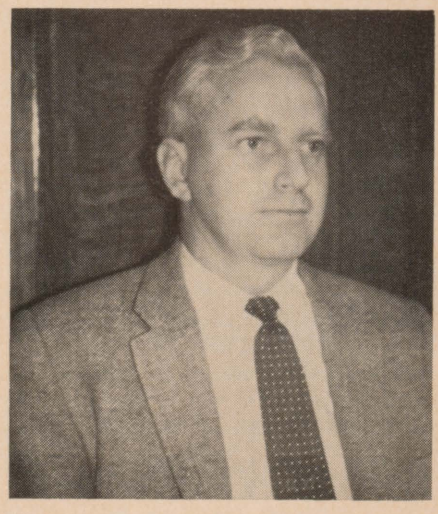
Needless to say artificial insemination will play a strong role in the use of performance tested sires through several of the techniques described.

Bulls destined for slaughter in the future will have been born as twins following the use of PMS (Pregnant Mare Serum). Weaned early to escape the inefficiency of gains using a lactating beef or nurse cow, implanted to capitalize on the advantages of hormones and tranquilized during periods of stress such as weaning, ration change, transportation, etc., a better carcass will be marketed. Routine management in the future will include the use of antibiotics during the period of transition from weaning to arrival in feedlots or during times when contageous diseases progress toward epidemic proportions.

Finally, it is proposed that beef animals of the future will be fed rations containing much higher proportions of plant by-products and protein substitutes. Rations will be delivered to the farm in bulk and pelleted. Then, the beef industry will be in a better position to compete with other forms of livestock production.



Ken Russell, 4-H Club member from Quyon, Quebec exhibiting a winning beef animal at the Sherbrooke Winter Fair, October, 1963. This animal was bred by Macdonald College.



Dr. M. A. MacDonald

THE FAMILY FARM

PUBLISHED IN THE INTERESTS OF THE FARMERS OF THE PROVINCE
BY THE
QUEBEC DEPARTMENT OF AGRICULTURE AND COLONIZATION

Compiled by T. Pickup of the Information and Research Service, Quebec Department of Agriculture and Colonization.

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Keeping away from the Joneses

PHOTOGRAPHS BY OMER BEAUDOIN

THE CARE OF HORSES' FEET

The old saying "no foot, no horse" embodies a truth that competent judges of such matters and horsemen in general acknowledge unanimously. Mr. J. A. Guimont of the Quebec Department of Agriculture and Colonization advises all those who make use of horses in one way or another to bear this truth continually in mind; because every horse, regardless of breed or type, is only valuable is so far as its feet are sound, well proportioned to its size and weight, and above all solid. Whatever qualities or elegance the animal may have, it will be of little use to its owner, either as a draught-horse, or for racing, trotting or riding if weak, contracted or faulty feet hinder it from carrying its weight easily and naturally and moving briskly at all times.

In view of this, the prime importance of good hooves and their proper care can scarcely be overemphasized, for they are essential to the well-being of the horse and hence to its basic efficiency in all seasons.

The hooves should be of adequate size and (more especially on the forelegs) round in outline; the heels should be wide and moderately high. As a matter of general principle, animals — either stallions or mares — showing weaknesses in this respect should not be used for breeding purposes, because they are liable to produce a fairly high proportion of foals with similar defects. It is also important to remember that smallish feet with narrow, cramped heels often lead to lameness as a result of the inner tissues of the foot not having enough room to fulfill their

(continued on page 12)

This page supplied in the interests of the Family Farm by the Quebec Department of Agriculture and Colonization.

The annual harvest of rocks on this farm in the Laurentians takes place very soon after ploughing; a task which would seem unbelievable to dwellers in the plains. It has been going on for generations.

Agricultural Rehabilitation and Development Act

The first of three articles describing the plan to restore Canadian agriculture to its rightful place

Natural Resources

Our readers are now familiar with the abbreviation ARDA for Agricultural Rehabilitation and Development Act. (Rehabilitation is defined as "restoring to proper condition, privileges, or reputation". Anyone who has watched a seed change and grow into a plant does not need a definition of the word "development".)

Early explorers who came to Canada were impressed with the wealth of natural resources — furs, forests, fish, soil, and minerals. Most of us still have a comforting feeling that our natural wealth is almost boundless, a feeling which is strengthened by news of surpluses of wheat and butter so large as to be an embarrassment, discoveries of vast deposits of oil and iron-ore, stories of the harnessing of water power and, at the back of our minds, faith in the ability of science to cope with any practical problems that may arise.

But there are also indications that our resources are not inexhaustible. It has become obvious, for instance, that some of the best peach land in North America, in the Niagara Peninsula, will not suffice both for growing peaches and for building sites; that rivers and lakes cannot be used at the same time for sewage disposal, swimming, and fishing; and that it may be advisable, as in the case of the Columbia River project, for us to ponder just how far we should go in sharing water resources with our neighbours.

It is also becoming clear that we have not always made the best use of our natural wealth: some of it has been and still is being squandered, much is undeveloped or under-developed, and some misapplied. All this has led in many cases to the most tragic waste of all, waste of human effort and talents — our most precious resource.

The Plight of Canadian Agriculture

This is specially true of agriculture; and while, in the past, the cultivation of land more or less unsuited for farming may not always have led to undue hardship, the sweeping changes which are now transforming the world as our fathers knew it have rendered unprofitable many a farm that used to provide a good living for a hard-working family. At the present time, "... nearly one half of farm-operating families in Canada and the United States have incomes so low that they require special attention. It would be going too far to say that these families are poverty-stricken ... but the available data focus attention on a substantial low-income problem in agriculture.

"Fundamentally our problems are rooted in rapidly changing production and marketing techniques that leave a substantial backwash of underemployment of human and natural resources and of communities whose social and economic existence is severely challenged by these changes. The rural community is therefore a community of stresses and strains ... As a result of these adjustment difficulties, rural areas are characterized by relatively low earnings.

"It is significant that ... the low-income farms are most heavily concentrated in Quebec and the Atlantic region. In this area they account for about 40% of all commercial farms. In the rest of Canada, about 25% of the commercial farms fall into this category.

"This regional concentration of low incomes in agriculture has had an important bearing on Canada's program for rural redevelopment. But the problem is broader than any region. The low-income problem in Ontario and Western Canada also remains of such proportions as to require a nation-wide approach."

A Marginal Farm

As an example of the kind of farm that might be considered as "marginal" in the sense that the high cost of what the farmer has to buy and the comparatively low prices he gets for his produce might eventually squeeze it, economically speaking, out of existence, we may take the one shown in the accompanying illustration (though it would have been easy to choose a farm whose situation is much more precarious).

Located in the Laurentians about thirty miles north-east of Quebec, its stony and shallow soil has been ren-

dered productive by generations of the kind of hard work depicted, and by generous applications of manure, commercial fertilizer and lime. The owner, seventy-five years old, runs the farm with the help of one of his sons. Half of the 240 acres have been brought into cultivation, the remainder is woodland, including a sugar bush of about 700 trees. Farmed with care, it yields adequate crops. Piles of rocks which used to encumber the fields every 50 or 60 feet have gradually been removed. The pastures are operated on the basis of a four-year rotation, regularly fertilized, and sown with a forage mixture that includes Ladino clover. The hay and grain fields are also subjected to a similar rotation. Yields are surprisingly good, especially in years with sufficient rainfall.

The livestock comprises 13 cows, a dozen head of young cattle, and an Ayrshire bull; two sows and their litters, 50 hens and 50 hybrid pullets, two horses, a ram, 3 ewes and 6 lambs. The income from the dairy herd is supplemented by the sale of about 2,000 pounds of pork and a few hundred dozen eggs. Buildings are solid and conveniently equipped. There is a workshop with a forge, electric motor, circular saw, and metal and woodworking tools. The old family home has a modern bathroom, refrigerator, and freezer.

Thus the family appears to live comfortably on a farm which some economists would describe as sub-marginal. However, it should be remembered that the present owner is reaping the modest rewards of over a century of strenuous and devoted toil. The sort of question that is now being asked is whether the effort of bringing more land like this under the plough is worth while, or whether it might not be better to use such land for other purposes — for example, forestry; and whether the modern technological revolution that is changing farming from an art and a way of life into a highly complex scientific and business operation may not leave many families stranded on those farms which offer little more than a subsistence living.

Planning for the Future

These questions must be studied and answered not only from the point of view of costs of production and prices for farm products, but also in the light of such far-reaching considerations as estimates of the nation's and the world's future food requirements, and probable results of research and effort aimed at increasing agricultural production. The following figures are of interest in these connections: During the next twenty years —

"There will be a 70% increase in the amount of food consumed in Canada, as a result of a 63% increase in population and 5% increase in the amount of food consumed per capita; World demand for food will increase 80%; To meet the need, the number of grain-fed animals must increase 60%; Production of feed grain must more than double by 1980.

Meanwhile, efforts to increase production are expected to result in: Dairy cows with productive capacity double that of cows 50 years ago; Broilers which, scientifically bred and fed, have a feed-weight ratio of as little as two to one; a pig that can be brought to 200 pounds in four months at 2½ pounds of feed per pound of live weight; a calf that can be raised to 600 pounds in six month.

"Eastern Canadian soils now under cultivation could produce two to three times as much as at present, given application of management techniques already known. Western Canadian production could be doubled through application of known extensive farming methods."

Whether we like it or not, the winds of change are blowing. "Whithin the lifetime of any farmer over forty, there has been a technological revolution in the methods and machines used to produce foods on the farm. Many farmers have been able to grasp the opportunities provided by new machinery and have increased their productivity and income. Others have been forced off the land, attracted by opportunities elsewhere. Still other farmers have been unable or unwilling to leave the land.

The end of the period of change is not in sight. During the foreseeable future, continuing change with its opportunities and problems can be confidently predicted. For better or worse, these changes will leave their mark on the lives of all Canadians, especially those who farm. If we can analyze and understand what is happening; if we can develop plans to meet the problems and take advantage of the opportunities, we shall gain from the changes. If we can't do this, some people may gain, but many will not, **and many will waste their lives fighting a losing battle."**

"ARDA is intended to help the low-income section of agriculture — to help marginal and sub-marginal farmers, who are deriving a bare subsistence from their land, to help themselves. But it should be well understood that the ARDA program need not and will not be limited to poor and depressed areas. It is much more generally applicable and potentially useful than this."

As to the outcome of this program, a great deal will depend on the interest and initiative of the people it is designed to help. In this connection, the words of the Hon. G. H. Hutton, Minister of Agriculture and Conservation of the Province of Manitoba, are pertinent:

"The greatest deterrent to thriving communities and farms in Canada is a widespread attitude that all small communities and small farms are doomed. The prevalence of this attitude is probably the greatest single factor contributing to the decline of some of our communities and farms. Because these people believe the community is declining, they refuse to participate in any positive program for the area. Because they believe the small farm is doomed, the will not invest in it. As this attitude spreads and more and more people refuse to participate, their prediction becomes true. However, their prediction becomes true because of the negative attitudes of the people rather than any inherent characteristics of the community or farm. Robert Merton, one of America's outstanding sociologists, has called this phenomenon 'the self-fulfilling prophecy', and has shown that this is a crucial factor in any social situation.

"A well-known economist used the analogy of the bumble bee. According to all laws of aerodynamics, the bee can't fly. But happily the bee does not know it, and is able to carry on."

Passages quoted in the foregoing article are from the publication "Agricultural Resources for Tomorrow", and from papers given at the 43rd Annual Convention of the Agricultural Institute of Canada by Baldur H. Kristjanson and the Hon. G. H. Hutton, and reported in the Agricultural Institute Review, Vol. 18, No. 4.

HIGH QUALITY FUR LARGER PROFITS

Even when the mink raiser has successfully reached the last stage of his fur production, he has still to accomplish the important task of giving his product the desired finish and qualities sought by the market. All his efforts of the past nine months cannot be allowed to come to nothing. He must continue to feed his animals well and, at all costs, maintain ideal conditions of cleanliness not only in the nest-box but in the pen itself.

Feeding

The phenomenon of change of coat in the mink — more specifically, the shedding of the summer fur and the growth of the winter fur — is accompanied by certain dietary requirements, particularly as regards the quality of the animals' food.

The first signs of this change of coat are seen when the tip of the tail turns a darker colour and appears fuller and more densely furred. The pigmentation

(continued on page 12)

A family farm in the making

At twenty-nine years of age, Mr. Grégoire Fredette of Saint-Ours, in Richelieu County, is already the head of a family of nine children: Mrs. Fredette, formerly a teacher, finds her experience useful in coping with youthful high spirits. During fourteen to sixteen hours a day, she goes briskly about her household tasks and devotes herself to all sorts of domestic arts and crafts as well. Her comfortable home reflects her tireless industry.

The farm has an area of 90 arpents, of which 65 are under cultivation and the remainder is woodland, including a sugar bush of some 650 trees. Mr. Fredette treats his land to generous applications of lime and commercial fertilizer. He is engaged in improving the system of surface drainage, the defects of which have at times caused considerable harm to his corn. The abundance of grass in the renewed parts of the pasture land bears witness to the value of good farming methods, liming, and fertilization. The pastures follow a four-year rotation, and the grain and fodder a five-year cycle. One cutting of hay from the new hayfield was sufficient to fill a silo. Another silo, measuring 12′ by 28′, is being built.

Since he keeps a dairy herd, Mr. Fredette has good reason to increase the yield of his grasslands. However, his farm already provides enough forage for 36 head of cattle: 21 cows and a young Ayrshire bull, and 14 heifers in various stages of growth. Fourteen of the cows and ten of the heifers are also purebred Ayrshires. The average milk yield of the herd could definitely still be improved by careful selection of replacement heifers, and by balanced feeding based on first-class forage. Reports of the R.O.P. tests reveal that the best cows produce 8,000 to 10,343 pounds of milk and 315 to 404 pounds of butter-fat a year.

The barn is ventilated automatically. Condensation of moisture on the inner surface of the walls could be prevented by insulation. Manure is stored in a concrete shelter measuring 12′ by 15′. Mr. Fredette lives next door to his father and, by sharing the more expensive implements with him, is able to avoid investing too much capital in machinery — an important factor in the success of his efforts to build up a family farm.

(From "Le Mérite Agricole 1961".)

This page supplied in the interests of the Family Farm by the Quebec Department of Agriculture and Colonization.

CAN WE FEED THE HUNGRY HALF OF THE WORLD?

by Dr. Rolland Poirier, Dean of the Faculty of Agriculture of Laval University

The scandal of our century is this: humanity is divided into two halves. The first half has all the tools to produce food in abundance and must at every moment resolve sharp problems of overproduction. The other half does not always receive the minimum ration necessary to sustain human life. Owing to distances or seemingly unassailable political frontiers, humanity has not been able to remedy this scandal. Now, however, modern transport and food preservation have reduced distances, and international co-operation is becoming a reality.

I think the solution to this problem may come in our lifetime. More than that, I think that very soon we may see competition between Russia and the West — a severe competition to feed the hungry half of the world, just as there is now competition in outer space.

But let us suppose that the problems of transport and political barriers are overcome. Are we equipped to feed the rest of the world ? I think not. Before we can begin to attack this problem in a practical way, the world will need a very great many more professional agriculturalists. I believe that the agriculturalist must redefine his job and broaden his outlook. He must become a specialist in human feeding.

We must have better-trained producers, because one day we will be asking people to produce **more** food, not less. If we were to meet only 20 per cent of the food requirements of the hungry part of the world, Canada and many other countries would have to increase their present production. We must graduate from our universities men who understand all the aspects of food processing, biological as well as technical. While attacking **quantitative** problems of human feeding, in many countries we must also attack the **qualitative** problem. This may even be necessary in some of the so-called "well-fed" countries, like Canada, where the two sole practical criteria of choice seem to be "flavour" and "satisfaction". As far as quality is concerned, our domestic animals are a great deal better nourished than we are. (The nutrition division of the Department of Health and Welfare reports that, on the **average,** Canadians consume much more of every nutrient than they need, and yet some, among families of all income levels, consume too little of various nutrients.)

This is not a question of trying to invade the fields of the dietician, the doctor, or the chemist. It is, rather, a broadening of the field of the agriculturalist so that he can work with others to meet the challenge of feeding an ever-growing world population. Agriculture has been kept in a sphere by itself too long. It must now come out of its shell and join the world. Society must know that by helping agriculture, we are helping to improve our own nutrition and are beginning to solve the problem of feeding humanity.

During the last war, a good part of the world looked with pride at Canadian agriculture because we were helping to feed the Allies. Let us now go on record as saying that we are working toward the task of feeding not the Allies but the hungry populations of the world. As a practical first gesture, let Parliament divert ten per cent of its present defence budget to this new task. It would also be practical disarmament.

(From Imperial Oil Review, October 1963)

CARE OF HORSES' FEET

(Continued)

natural functions in a normal manner. Moreover, feet that are too small in volume seem to be particularly predisposed to side-bones or even ringbones.

If they have to be used regularly, horses with rather narrow heels should be kept suitably shod. In summer, unless the ground they have to traverse is too rough and uneven, care should be taken to provide them with plate shoes so as to allow the frog of the foot to come into contact with the ground.

Like the hoof, the coronet should be ample and round, and the frog sufficiently well developed to fulfill its role of shock-absorber satisfactorily. Incidentally, it should be noted that a thinnish frog is usually found with heels that are narrow, or at least with heels that have a tendency to contract.

It is important not to trim the frog unnecessarily, because such undue paring leads to drying out, which, in turn, is almost invariably followed by contraction of the heel. The horseman is strongly advised to make a fairly frequent practice of cleaning the sole (or under surface) of the hoof. Above all, he should carefully remove all manure that he may find there, because, it may cause frog rot — a quite common complaint which can become very injurious to the horse's foot.

It is undisputed that a horse's feet should be set or pointed in a straight line beneath its body; that is to say, not turned outward (cow-hocked) nor inward (pigeon-toed). Faults of stance such as these are seriously detrimental to the well-being and also the effective output of a horse. More specifically, a cow-hocked horse is apt to strike or hit itself when moving (the foot that is in motion coming into contact with the one that is resting on the ground, either at the coronet, the fetlock, the cannon, or even the knee) or to, "calk" itself, sometimes seriously injuring itself. Pigeon-toed horses on the other hand are quite commonly affected by side-bones.

In order to safeguard a young horse's good stand and to prevent defects, it is advisable to make a habit of examining its hooves regularly (at least once a month) with a view to correcting uneven wearing of the horn. If the feet of the growing animal show a tendency to turn outwards, it is advisable to slightly lower the outer side of the hoof and the inner heel: if, however, the foot tends to turn inward, the inner side of the hoof and the outer heel should be levelled. In so doing, care should be taken not to trim the frog and not to thin down the sole. The purpose of avoiding trimming and paring these parts is to ensure that the hoof will develop normally and be allowed to reach the desired size and, above all, to prevent any squeezing of the horn.

Finally, all possible steps should be taken to maintain a good stand in the fully grown horse, because this will add greatly to the animal's intrinsic value, since it is a proof of the soundness of its limbs and hence a gage of its enduring service.

Lise Theoret visits the flock of White Leghorns on her grandfather's farm at Ste-Sophie, Terrebonne.

KEEPING AWAY FROM THE JONESES

Observations of an American scientist studying poultry behaviour at Texas Agricultural College throw interesting light on some of the problems which have been baffling those with wire-floored houses who have been disappointed with results.

The scientist is Dr. J. Wakefield who, reporting on his research findings, says: "Chickens are governed by somewhat the same type of psychology as humans. A peck order — or pattern of social habits of the birds — determines the behaviour of the entire flock."

On crowded floors most birds play safe by staying with a small group they can recognize and remember. These sub-communities have their own social order, which is carefully observed; they confine their activities always to the same part of the house. Under conditions of good management this sort of flock structure is usually quite peaceable.

When the birds do not have to travel more than about 10 to 12 feet there is little danger of encountering social superiors of other sub-communities. Thus there is less tension and stress in the flock as a whole. But if they have to travel into strange territory to get to the feeders, drinkers and nests, Dr. Wakefield says, that is where trouble starts. Squabbles break out among the high-ranking birds, while the henpecked ones elect to go hungry and lay their few eggs on the floor.

(From an article in The Farmer and Stockbreeder by Anthony Phelps.)

HIGH QUALITY FOR...

(Continued)

of the skin of the body is then pale blue while that of the tail is dark. The mink raiser can encourage the change of coat. It is often surprising how much a little extra food during that period can help to promote the change of coat and also the size of young mink: hence the ration should then be more abundant and substantial; the foodstuffs making up the ration should be more easily assimilable, contain a greater variety of good-quality proteins, some fatty substances, and an adequate quantity of minerals.

The freshness and wholesomeness of the food also have an important bearing on the quality of the fur. If substances fed to mink are rancid, oxidized, or contain a high percentage of bacteria (as the intestines in the poultry offal fed to mink commonly do), bladder troubles or wet belly may occur. Such accumulations of bacteria may, however, be got rid of through the incorporation of an antibiotic product in the ration at regular intervals.

Cleanliness of Nest-boxes and Pens

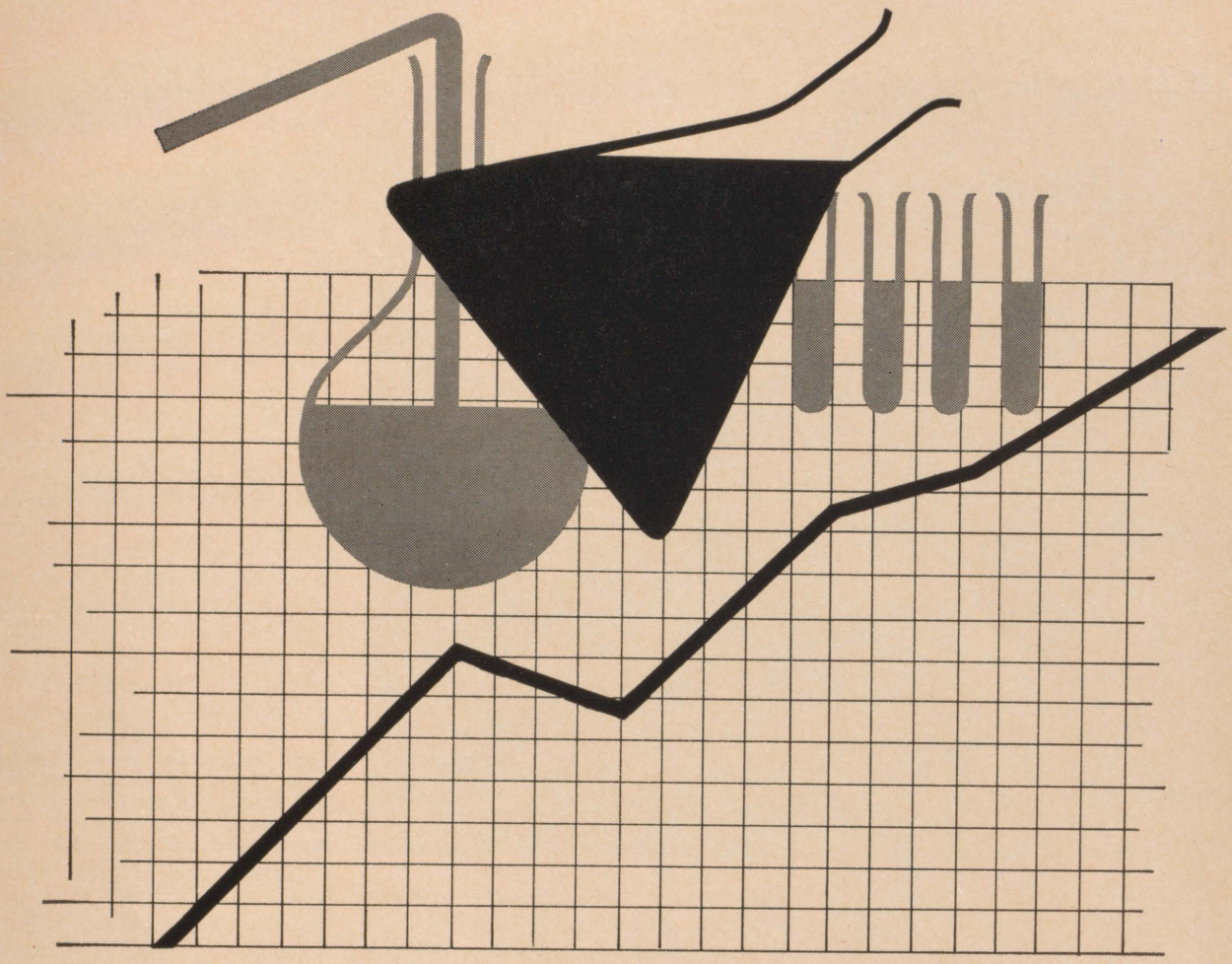
For many mink breeders, quality of pelt and the resulting prospect of higher financial returns depend to a very considerable extent on the cleanliness of pens and nest-boxes. Anyone who keeps mink should never tolerate nest-boxes which are dirty or broken or have jagged projections that will let his animals spoil or damage their fur. Soiling of pelts from contact with droppings, rusty wire, or from food that is too wet falling on them, will mar the colour, lustre, and texture of the fur. These defects will also appear on the leather, and the pelts will be put into lower grades.

So that nest-boxes may stay clean and dry, they must be filled with straw, hay, or hardwood or cedar sawdust to serve as padding. Contact with material of this kind will make the animals' fur cleaner and the mink will also be protected from severe cold. It is better to fill the nest-box quite full, leaving only a small opening to allow the mink to enter.

If some of the animals have got into the bad habit of fouling their nest-boxes with droppings, the closing up of the entrance for a few days may prove an effective way of inducing them to form clean habits.

Regular inspection of nest-boxes at the time of year we have been discussing is indispensable.

This page supplied in the interests of the Family Farm by the Quebec Department of Agriculture and Colonization.



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First in a continuing series

Good cows on good pasture — the basis of successful dairying on the Duncan farm. The pasture fields are limed as needed to correct soil acidity and top-dressed each fall with fertilizer.

THE FAMILY FARM . . .

on the way out?

There are some who think that the family farm cannot survive the agricultural revolution. Jerry Duncan, who farms near Ormstown, is proving them wrong.

by Walker Riley

WHO SAYS THE FAMILY FARM is on the way out? Certainly, Jerry Duncan of Ormstown doesn't think so. Or his father, Thomas. Or his wife, Lois.

Any visitor to the Duncan farm cannot help but feel the atmosphere of optimism and quiet enthusiasm, and the sense of security which spans the generations. Here is an example of a farm family who, with disturbing change all around, is moving forward with hope and confidence in the future.

The day I first met the Duncans, Jerry and his father were at the back end of the farm finishing up the fall's ploughing. It seemed almost symbolic of their way of life — father and son working together to prepare the good soil for next year's crop, straight furrows well-turned, neat "cross-rigoles" ready to carry the spring's run-off.

While Jerry finished up the headland, Mr. Duncan, leaning on his shovel, his back to the warm autumn sun, related to me bits of family history. With quiet pride, he told me how his great, great grandfather had come from Scotland, while his mother's people traced back to the time of Wolfe. His wife's ancestors were lost in early Canadian history. His daughter-in-law, Lois, Jerry's wife ,— added to the tradition. Her people were United Empire Loyalists.

Jerry finished the ploughing. With a few minutes left before chores, the three of us talked of business arrangements, of their plans to keep the farm in the family. They had worked out a plan which was simple, and satisfactory to both of them. With a chuckle they told me that at first Jerry had been the hired man. Then, when Jerry and Lois were married in 1956, the young couple bought the farm and the father became the hired man! The reorganization, however, called for

extra capital. Jerry borrowed from the Quebec Farm Credit Bureau. A new bungalow was built for his mother and father on a pretty corner of the farm.

Thanks to his father's foresight, Jerry didn't have to lay out too much cash for livestock when he took over. As soon as he was old enough for 4-H club work, Jerry was given a calf for his own. In the next two years, two more calves. It is surprising how quickly calves grow into cows and, in turn, have calves of their own. Today, Jerry's herd of 25 cows traces mostly to those calf club heifers. Already, there are another 30 or so young cattle on the way up.

Conversation ceased while we rode the tractor to the barn, but we were able to chat again while Jerry did the milking. He explained that he was faced with the problem of accommodating his expanding herd. If he installed a stable cleaner and built a new milk house and a bulk tank, he felt he could handle several more cows. But the stalls were already full; there was no place to put them. He figured his best chance was to extend the stable right through the hay barn. Since he was baling all his hay, he didn't need the space. But there were posts in the way. Always something!

Most of Jerry's Holsteins are registered and the herd is on R.O.P. Each cow's milk is weighed daily and tested once a month by a visiting inspector. Jerry figures a record of each cow's performance is well worth the extra effort. Besides, the R.O.P. man always brings with him a wealth of new information.

Milking finished, Jerry insisted that I stay to supper. True to traditional hospitality, Lois already had an extra place set. It was good to feel the warmth of a wood-burning stove again. Though they had beautifully modernized their kitchen, they had refused to give up this ancestral source of solid comfort. Michael had missed Kindergarten that day because of a cold, but it did give him a chance to enjoy Lorna's first birthday. It will be a year or two yet before Bobby goes to school. But they are lucky there — Ormstown is less than a mile away.

It isn't "all work and no play" for the Duncan's either. They make time for recreation and community service. Both are active in church work. Jerry plays in the Ormstown band — he is president — and he has a 70-member calf club to look after. He has taken his turn, too, on the executive of the Holstein club and the milk producers' organization.

I had to come back a second day before I discovered one of the keys to Jerry's Duncan's extra measure of success. It was his excellent pasture program. Jerry is convinced that pasture is his most valuable crop, and handles it accordingly. Over most of the farm, he runs a standard rotation of corn for silage, 2-years oats, and 2 or 3-years hay. But at the front of the farm, next to the buildings, he has set aside 20 acres exclusively for pasture. This, he divides into small, 3-acre plots with an electric fence. The cows graze each plot in turn for a few days, then are moved on. He uses a chain harrow to keep the growth uniform and clips with a mower to keep weeds from going to seed.

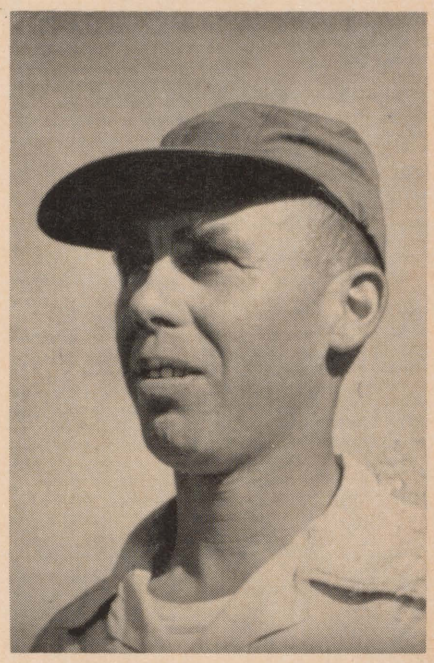
Each pasture field gets 200 or 300 lbs. of 0-20-20 fertilizer every fall. In addition, the older fields receive 125 lbs. ammonium nitrate in the spring. It was the end of the grazing season the day I was there, but there was still evidence of tremendous vigour.

Jerry intends to break up the oldest pasture this fall. He plans to seed directly next spring using rather a complex mixture of climax timothy, alfalfa, red clover, trefoil and orchard grass. So far, he hasn't had much luck with brome grass. He will use 4-24-20 fertilizer, 3 bags to the acre, and plans to graze off the oat nurse crop.

Jerry says he has had a lot of help from the staff of Macdonald College's agronomy department. In return, he makes space available for fertilizer and variety trials. Additionally, he has the encouragement of the agronome, Leon Beaudin, and Jerry, himself, is a 1951 graduate of Macdonald. In fact, his farm plan was a class project.

What of the future? Jerry says he will make his plans as he goes along. He takes his father's wise advice, "not too big a step at once". Probably a second silo and more corn; some under-drainage with tile; maybe cut back on oats; certainly, a few more cows. With Canada's largest city less than an hour away, he isn't worried about the future of his market for milk.

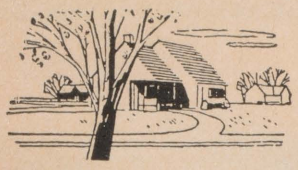
Perhaps the family farm is changing. But Jerry Duncan and his family are proof to all who want to see. The family farm can be the solid basis of Canadian agriculture for a long time to come.



Jerry Duncan.

On the Duncan farm, excellent ploughing is the first step in high yields.

Ladino Clover is a valuable legume on the Duncan farm. Pasture cages help Jerry and his father determine yields.



The Better Impulse

NEWS AND VIEWS OF THE WOMEN'S INSTITUTES OF QUEBEC

OUR FAR AWAY SISTERS

Mrs. Aroti Dutt, Area Vice-President for Asia, has initiated an ambitious plan which will have its beginnings near Calcutta, India, and for which the Nat. Federation of Institutes of England and Wales has contributed £5,000.

From their magazine Home and Country we quote: "Women from 5 or 6 villages — many of whom cannot read or write — will receive a year's training in the form of simple demonstrations and classes, during which time local leaders will be trained to take over the follow-up work, perhaps through a Mahila Samita (Women's Institute) — and the teaching unit will then move on to another area." It is expected that over a 3 year period, eighteen villages will have benefited in this way. Such is the work of ACWW. "We start where we are with what we have."

Mme. Geerda Van Beekhoff van Selms, President of the Associated Country Women of the World, signs the Golden Book at City Hall, Montreal. Watching are L. to r. Mrs. G. D. Harvey, Past President QWI, Mr. J. N. Parker of the Mayor's office and Mrs. H. M. Ellard, President QWI.

FROM THE OFFICE

Some of the projects carried out by QWI convenors over the past fifty years have been prepared and printed. Especially for interested convenors. Write the office. . . .

With so many highway accidents, we have ordered reprints of an excellent article from the Readers Digest, 1960, called 'If you are first at the crash'. These will be in the Pamphlet Library #30-G-2.

Don't forget to save your stamps from Xmas cards. With ¼" border they are worth 60¢ a lb. to the Junior Red Cross who use the money for glasses for needy children, materials to make articles for handicapped children etc. .

COMPTON CO. BURSARIES

The Compton County bursaries were won this year by the following: The Hon. C. D. French Memorial bursary to Miss Miriam Beaton of Gould, Que. now attending Bishop's University, Faculty of Arts. Compton Co. WI bursary to Miss Judith Taylor, Eaton, Que., enrolled in School for Teachers, Macdonald College.

COUNTY PROJECTS

A request in 1959 for county items brought this from Mrs. W. Broscomb, Shipton WI, when she was Richmond Co. Publicity Convenor:

"A window box contest, an absorbing project, has been held for the last three years by Denison Mills branch; as yet only a defined section of the community is eligible and the local agronome comes on an agreed date to do the judging. Prizes are given. "Particularly appealing (to me)," says Mrs. Broscomb, "is the fact that elderly people and semi-invalids could participate; window boxes are easily cultivated and placed in a sheltered spot, provide many pleasant hours."

Agriculture Conv. Mrs. J. Andrews presenting the prizes to the winners, Mrs. A. Fulker 1st, Mrs. A. Boreham, 2nd, in the Denison Mills WI window box contest.

THE MONTH WITH THE W.I.

Denison Mills still has its window box contest. Mrs. Fulker, the present Publicity Convenor for the Denison Mills WI, writes that there were 18 entries in this its seventh year. The prizes, given by the branch, were presented at the September meeting. Miss Grace Philbrick, an offtime winner, has lately passed away. First prize for 1963 went to Mrs. A. Fulker, second to Mrs. A. Boreham, followed by Mrs. D. Rief, Mrs. A. Stevens and Mrs. A. Hebert.

Brome County — has adopted a destitute foreign child, with each branch contributing support each month.

UNICEF is prominent in reports this month, with UNICEF Hallowe'en collections organized by East Clifton, Hemmingford ($105), Inverness, Rawdon ($51) Shipton ($62) Stanbridge East, Hatley, Stanstead North ($230); parties for the children who collected given by East Clifton, Ayers' Cliff, and contributed to by Lennoxville; contributions to UNICEF by Knowlton's Landing, Kinnear's Mills and Fordyce; and Christmas cards ordered by Mille Isles, Wright, Cowansville, Fordyce and Ascot, in addition to others already reported.

REMEMBRANCE DAY was observed in meetings at Arundel, Ormstown, Lochaber, Denison's Mills, Spooner Pond; wreaths for cenotaphs were wholly or patly donated by Brownsburg, Bury, Canterbury, Cookshire, Denison's Mills; Poppies were made, sold or worn, in aid of Veterans, by Brownsburg, Lachute, Upper Lachute East End, Austin, South Bolton, Inverness, Fordyce, Gore, Melbourne Ridge, Spooner Pond.

CONGRATULATIONS to MALARTIC Branch for a fine example to us all of wisdom and unity : after thoughtful discussion on advisability of holding separate sections at their meeting, one in French, one in English, the members voted unanimously to stay together, with each member making a special effort to learn the other language.

And Congrtulations again to GASPE County, where another new branch, DARTMOUTH RIVER, has been organized. Members from four post of-

fice areas voted to name the branch after the river that connects them.

ABITIBI-EAST : MALARTIC learned how to measure for and to make lampshades, and had a demonstration on the making of Christmas decorations; heard report on "A Visit to our Dairy"; purchased a loom, with accessories, with funds raised by a sale of hand-woven tablecloth and napkins.

ARGENTEUIL : ARUNDEL had slides and talk on Free Education in Spain by member recently returned from tour to Spain and West Indies; BROWNSBURG held a panel discussion on the W.I. — Beginnings and Accomplishments; entertained by another branch. FRONTIER heard talk by X-Ray Technician from New Argenteuil Hospital which was made most interesting by the showing of several X-Ray pictures; Roll call — two rules for good health. JERUSALEM-BETHANY entertained PIONEER, with Mrs. McGibbon showing coloured slides of her trip to the Orient; making a quilt is the current project. LACHUTE enjoyed a talk on Bill 60 by Dr. E. S. Giles, formerly High School Inspector for Quebec Province. MILLE ISLES' Convener of Welfare and Health read an interesting paper on "Heritage"; made donations to Quebec Service Fund, Educational Fund, And Fair. UPPER LACHUTE EAST END entertained Brownsburg, with County President as guest speaker, and a special social program; report of Semi-Annual given.

BONAVENTURE : BLACK CAPE studied the outline for Health and Welfare; paper on Detergents read; gifts sent to sick persons. GRAND CASCAPEDIA held a most successful card party, and sale of chocolates; held a School Fair; MATAPEDIA organized and held a successful Blood Donor Clinic; brought donations of jam and and pickles; sympathy and get-well cards mailed. RESTIGOUCHE members exchanged jams, jellies and pickles; their summer picnic was held at MacPherson Hall, and was largely attended, treats and prizes given; card party held. PORT DANIEL has completed a course in glove-making and leather work; gave prizes to pupils at the Catholic School; with MARCIL assisting, a School Fair was held. These two branches entertained jointly at a meeting for School Board members and for the teachers of several schools.

BROME : AUSTIN held a Hallowe'en Party, with prizes, for children; enjoyed a visit from County President and first Vice-President; sponsored a Story Hour and Children's Library in the High School. KNOWLTON'S LANDING held a birthday party for a 90 year old friend, sent donation to Sweetsburg Hospital; SOUTH BOLTON read most interesting letter from Miss Isobel Millar, missionary at Hong Kong. SUTTON won first prize on hand-knitted socks at Semi-Annual Convention.

CHATEAUGUAY - HUNTINGDON : AUBREY - RIVERFIELD entertained their husbands at a card party; boxes of good, warm clothing sent to Unitarian Service; quilt-making project started. DUNDEE held Quiz on most important political figures of to-day; gave Supper Hints; demonstration of smocked cushion cover and handwoven apron.

HEMMINGFORD heard Mr. Douglas Lambie on suggestions for Centennial Projects (Community Libraries, cleaning up rivers, streets and highways, travel through Canada, etc.) Representatives of The Cercle de Fermieres, the Churches, and the Chamber of Commerce attended; $50 bursary and the plaque and the shield for academic accomplishment given at the High School Exercises. HOWICK had, as guest speaker, County President, Mrs. W. Middlemiss; two scholarships and several prizes given; project — the clear marking of mail boxes. HUNTINGDON welcomed a new member; Mrs. Bernhardt demonstrated a "Dish Garden". ORMSTOWN had talk on Armistice as we think of it to-day; held quiz on the hobbies of farm women.

COMPTON : BROOKBURY gave prizes to Bishopton School; held a baby shower for a member; CANTERBURY had as guests, Dr. and Mrs. W. J. Klinck of Lennoxville, who spoke on "Care of the Aged, and showed slides of Grace Christian Home in Huntingville. BURY and SCOTSTOWN were entertained at this meeting; donations to School Prizes; two baby showers held, Sunshine Basket sent. COOKSHIRE heard good report of Semi-Annual. EAST CLIFTON : "Care of Firearms", especially relating to young boys, was the topic of lecture by Col. W. Bishop; Mrs. E. Watson, County Nurse spoke on Contagious Diseases; entertained County President, Miss Lillian Palmer, and Secretary, Mrs. J. D. Harrison; held party for children who collected for UNICEF. SAWYERVILLE are making cancer dressings as their project, meeting one afternoon and evening each month. SCOTSTOWN held panel discussion on UNICEF; donated to Quebec Service Fund and Share-A-Loaf Cards.

GATINEAU : Most branches heard report of County Semi-Annual Convention. AYLMER EAST served tea and cookies at OTTAWA Winter Fair, as did Eardley and Wright. BRECKENRIDGE read and discussed Mrs. Ellard's Provincial President's letter; three conveners spoke on these topics — How to Plant and Care for Raspberry Canes, — How to Treat Frost Bite, and — How to Remove Water Stains from Tabletops; members asked to bring ideas for celebration of Branch 50th Anniversary next March. EARDLEY had as guests, several members from Aylmer East, one of whom, Mrs. Bowdie McLean gave an interesting talk on Corn. WAKEFIELD heard about ARDA from Mrs. K. Winfield; held a Pot-Luck Supper; collected for Canadian National Institute for the Blind. WRIGHT entertained Mrs. Roy Leach, County President, who spoke on the WI and gave helpful and interesting information; Mrs. S. Moodie, Citizenship Convener, gave a reading on "What they did before cars and monies"; donation to Quebec Service Fund.

TWO MOUNTAINS : OKA heard Miss Lily Oke speak on "Reasons for Immigration, and Who Are the New Canadians"; square dance followed the business meeting; Bake Sale held at Community Hall; names drawn for a Christmas gift exchange.

MEGANTIC : INVERNESS held a showing of slides, proceeds to be for Christmas cheer for shut-ins; made Poppies to aid Veterans; voted to give a scholarship. KINNEAR'S MILLS held card party.

MISSISQUOI : COWANSVILLE members each invited a guest, and were given a fine demonstration of lampshade making by Mrs. A. Dryden; welcomed a new member; held a successful food sale. FORDYCE heard talk on "Ventures into the North" — the report of Mrs. Howe; turned in sewing kits for Unitarian Service; are sponsors of a French Course which will be held two evenings a week until February; donated to school prizes. STANBRIDGE EAST erected a large Christmas tree on their plot; collected Christmas gifts for Verdun Protestant Hospital; held very successful food sale.

MONTCALM : RAWDON organized a Fall Dental Clinic; completed most successful Dressmaking Course under Mrs. Wells, with dresses, skirts, jacket, slacks, housecoat among the articles made; procured a W I mailbox for all incoming W I mail.

PAPINEAU : LOCHABER : Education, and Remembrance Day Thoughts and Views "were the theme of speech by Mr. McTavish, principal of Buckingham High School; annual inter-member sale held; names drawn for exchange of Christmas gifts.

QUEBEC : VALCARTIER collected gifts for parcels to Verdun Protestant Hospital; Home Economics Convener read article on "The Storage of Food"; for Roll Call, each member brought a quilt block, from which the branch

THE RURAL WOMAN AND CONTINUING EDUCATION

by Mrs. R. J. Penney

AGRICULTURE is a changing industry. The tendency is for the farm unit to become larger and specialized. The shortage of farm labour has forced farmers to mechanize to a very large degree. With this change has come a change, too, for many farm wives.

To offset a declining farm income, to assist with the high cost of machinery and goods and to provide education for their families, many who were teachers or nurses prior to marriage have returned to their professions. In order to keep abreast of new methods and techniques and to upgrade qualifications, not only are these women taking in-service training, where possible, but also summer courses or extra-mural work from universities.

The course for Certified Nursing Assistants has attracted several women. Young farmers' wives are returning to complete their education for teaching, nursing or secretarial work. Where it is not possible to work full time, some are doing part-time work. Many find this employment most satisfying not only as a source of income but also adding variety and interest to their lives.

Traditionally the farm wife was an integral part of the farm business and many aspects of the way of life were her particular domain. Specialization has almost done away with the farm flock, the buttermaking and related skills of other days.

Today the farm wife is often called upon to be the bookkeeper of a complex and highly skilled industry. They would find a course in business practice and management a real asset. In fact we know that women handle a large share of the family finances and are often left to cope with estates. Women are also becoming increasingly interested in the positions of clerks, secretaries and treasurers of Municipal Councils. It would appear a course in money management would be essential for women be they rural or urban.

The Agricultural Rehabilitation and Development Act of the federal government is designed to assist the smaller farm, the marginal farm or unproductive areas to become more financially sound in categories more suitable to the soil and location. One aspect is the development of areas suitable for tourists, campers or summer visitors. The large farm homes could be utilized as hostels or dining rooms. To assist the woman in this transition, courses in tourism, preparation and serving of food and related subjects would be of great value.

Many rural homemakers still utilize spare time in "cottage industries" such as weaving, quilting and rug making and augment their income with the product of their skills. We find these women interested in the short courses or night school courses in crafts, techniques and design.

Another aspect of continuing education for the rural homemakers is the opportunity for enrichment of their lives by attending the schools of fine arts which are fairly prevalent across the country. Art, ceramics, drama and writing attract registrants each summer. Proof of the interest of rural women in this type of course is the granting of their request to the Ontario Agricultural College at Guelph for a Summer School based on literature, music, art and certain phases of work in organizations — leadership, preparation of speeches and reports.

Rural women to a very great degree have taken to heart Daniel Webster's definition of education:

> "Education is the adaptation or adjustment of not only the person to his environment but an attempt to change the environment if it is less desirable than it might be."

MONTH WITH THE W.I.

(Continued)

will make a finished quilt; donation made to Quebec Service Fund; prizes donated to public speaking contest held in local school; main project is in assist ance to Community Skating Rink to which $100 was contributed.

RICHMOND : CLEVELAND members each brought a pattern for a quilt — one will be chosen, and quilt made for 1964 Richmond Fair. DENISON MILLS also started on quilt for this Fair; held a card party; brought in gifts for veterans as roll call; donation to Dixville Home for Retarded Children; Mrs. E. Carson elected to Home Economics Convenership, to fill the term of the late Mrs. G. Philbrick. GORE entertained their husbands at a card party following the meeting, with prizes won by Mrs. A. Smith and Mr. N. Mountain; demonstration on covering coat hangers; Christmas gifts for veterans collected, also clothing for Unitarian Service; donation to Hot Lunches at St. Francis High School.

MELBOURNE RIDGE are busy catering for Mason's Banquet, and later for Legion Banquet; will make appliqued quilt for Richmond Fair; flannelette bought for Unitarian Service; gifts wrapped for children's Christmas Party; donation made to School Hot Lunch program; Agriculture Convener reported organization of new local Farm Forum. RICHMOND HILL are busy sewing, with three quilts completed in the month, and each member making appliqued quilt block for the next one; silver shower for new baby; bought a heater for the hall; drew names for exchange of Christmas gifts: purchased a $100 Canada Savings Bond. SHIPTON filled Christmas Stockings; gifts for retarded children collected, to be sent to Sherbrooke School for Retarded Children, RICHMOND YOUNG WOMEN held Citizenship contests, which were won by Mrs. C. Mastine, and Mrs. N. Jameson. SPOONER POND entertained executive of another branch; new and used clothing collected for Unitarian Service Committee; Bingo played after the meeting, with prizes donated by each member.

ROUVILLE : ABBOTSFORD saw slides shown by Mr. Stewart Marshall, taken on a recent tour of Europe under the leadership of Dr. Norman Vincent Peale. The largest part of the trip was in the Holy Land, and Mr. Marshall's commentary made this a most interesting event. This was an open meeting, with friends and relatives present; donation of jellies made by members, sent to Montreal Diet Dispensary; bursaries of $25 each awarded to David Fisk and John Gibb, now attending Macdonald College.

SHERBROOKE : ASCOT had Mrs. G. LeBaron as guest speaker on the topic of expansion of W I work in the Northwest Territories. BELVEDERE held fancy apron contest with prizes; donations to Lennoxville High School Prizes;

(continued on page 26)

THE PREVENTION OF MENTAL RETARDATION

Adapted from an article by F. G. Gettlinger in *The Canadian Nurse*.

THE PROBLEM OF MENTAL RETARDATION is a particularly important social concern involving many people, and the full impact of this problem is not fully and clearly realized. People may hear reports that the incidence of mental retradation is 2 - 3 percent of the total population. The approximate number of mentally retarded persons in Canada numbers 360,000.

The problem of bringing this particular social problem to the attention of the public is being handled on a national scale by the Canadian association for retarded children. This association, composed of people in many walks of life is endeavouring to provide facilities and other forms of help to relieve the plight of the mentally retarded.

One special area within the total problem is the preventive aspect. Research in this field is relatively new, as compared to research in other fields. Since the problem of mental retardation is as old as society itself, this is rather surprising. Possible reasons for the lag in research could be the idea, past and present, that mental retardation cannot be prevented; the fact that other research fields are more enticing because the financial rewards are greater; the long term nature of research in mental retardation; the great difficulty in elucidating the exact causes of specific types of retardation.

Aside from direct empirical research into the causes of mental retardation, other sciences can and are contributing to preventive research. Two of the more important ones are biochemistry and eytogenetics. One specific condition where a recent breakthrough in biochemical research has resulted in preventive treatment is phenylketonuria (PKU). In this condition there is an inborn error of metabolism; the body is unable to break down an essential amino acid, phenylalanine. The inability to utilize this amino acid is believed to be due to the lack of a specific enzyme. Treatment is essentially a low amino acid diet, which keeps the level in the body within safe limits.

Amino acid is readily detectable by urinalisis. It is held that if treatment is to be successful in preventing mental damage, it has to start at least within the first few months of life. For adequate screening of children, public health facilities would have to play a primary role. Since convulsions and eczematous skin conditions are frequently associated with PKU, the appearance of either in children warrants the test.

Additional studies in England as well as in other countries have shown that the incidence of mongolism increases sharply in mothers 35 years of age and over. Although a concerted eugenic teaching appeal would not prevent all forms of mongolism, it would cause a decrease in its overall incidence, which is estimated at 5% of the total number of mentally retarded persons.

Meningitis and encephalitis in some instances cause irreparable brain damage in children, resulting in mental retardation. Prompt and effective treatment, with the wide range of drugs available, should forestall mental retardation. However some parents consult their doctor only when the disease is already far advanced. The need for health education is crucial in order to impress upon parents the importance of good health, care for children suffering from any illness — particularly prolonged or severe attacks of the common cold, measles, mumps or chicken pox. These conditions may precede attacks of meningitis or encephalitis.

The importance of an adequate and nourishing diet during pregnancy in decreasing the chances of a child being born with physical or mental handicaps cannot be over-emphasised. It is imperative that the pregnant women should avail themselves of regular medical consultation.

Oxygen, if given in excess to premature babies, causes irreparable damage to the retina. This condition is quite frequently associated with mental retardation, and leads us to suspect the possibility of the excess of oxygen causing brain cell damage along with injury to the retina.

Plumbism is a rather rare type of mental retardation and is caused by ingestion of lead over a period of time. There is a need for a constant vigilance. Sources of lead include paint, some nipple shields, toilet powder, etc.

Preventive measures in the area of hydrocephalic retardation are largely in the research phase. In this condition it is believed that the excessive accumulation of cerebrospinal fluid in the ventricles, exerting a tremendous pressure on the brain cells, causes distortion and prevents the brain from developing normally.

A rather rare but interesting type of mental retardation is the condition known as oxycephally. It is transmitted genetically.

Galactosuria is a type of mental retardation that can be prevented if discovered early enough. Briefly it is caused by an inborn error of metabolism, whereby lactose and galactose are not converted to glycogen by the liver. Detection of galactosuria is relatively easy through urinalysis. Treatment is simply dietary control. If treatment starts early enough, there is no mental damage.

The decline in cretinism is undoubtedly due to the fact that children receive more frequent and better medical care. Recent research suggests a treatment should be started prenatally by administration of thyroxin to expectant mothers who show indications of decreased thyroid function.

Mental retardation due to birth injuries is estimated at 5 - 10% of the total number. Numerous natal factors contribute to brain damage and consequent retardation. Among the more common are : asphyxia caused by appiration of fluid; prolonged pressure on the cord or a twisted cord; direct mechanical pressure; premature placental separation; breech presentation; too rapid presentation, and indirectly the overly depressant effects of anesthetics and sedative drugs.

It is common knowledge that rubella, better known as German measles, during the first three months of pregnancy causes physical abnormalities and in some cases, mental retardation in the baby. The physical abnormalities include cataracts, deafness, heart abnormalities and microcephalus. Some authorities in the preventive field advocate the exposure of all girls in childhood to rubella so as to prevent this particular type of mental retardation in a subsequent generation.

There is one clinical group of mental retardates which is particularly problematic insofar as prevention is concerned. This is the group sometimes referred to as simple or "subcultural retardation". The causative factors are twofold: Heredity and environmental.

The problem of mental retardation is a large one and, consequentally, prevention is of notable importance. Because so many people in our society are involved it would seem apparent that preventive information should be incorporated as a compulsory subject in the curricula of schools. Such an adventure would be financially rewarding to society as a whole.

FARM FORUM NEW'S 'N VIEWS

by Galen Driver

THE FIRST PART of this year's Forum season is now completed. We have had four new Forums reporting, namely, — Clarendon Forum, Bristol; Kingsburg Forum, Kingsbury; Gallup Hill Forum, Melbourne; and the Pinnacle Forum, Danville. There are more Forums being organized and we hope they will be meeting during this month.

Comments from the Forums on the program "Heritage" went something like this : "We think that the land should be owned and operated by the farmer." **The Arundel Forum** said, "When land is privately owned there is more interest shown in farming." **The Clarendon Forum** added, "The family farm is certainly worth saving but it seems difficult to keep because of the income comparison to the jobs in the city. We feel that co-operative farming would be the best alternative to the family farm.

The program "Women — In their Place" brought these comments. Many Forums agreed that once the youngest child goes off to school the farmer's wife is ready to look for employment off the farm. **The Pinnacle Forum** said, "Some women prefer working out to housework and if they have special training, such as teaching, this is a benefit to the community where there is a shortage of trained workers." The Forums were all very definite in their discussions that the children woulr not be neglected — either the mothers must stay at home or hire competent housekeepers. When asked if they would consider further training if it were available, most forums were very interested in adult education. They would all take further training, the obstacles being time, money and transportation.

"The Cost of Debt" was enjoyed by all forums and several bank managers attended the forum meetings to answer questions and discuss credit with the members. Most forums agreed that interest rates are not too high but a farmer should shop around before borrowing money. The rates on some short term loans and on money from finance companies are too high. **The Bedford Forum** stated, "Independent finance companies, machine companies and feed conmpanies often charge with high rates of interest." When farmers need advice on credit, they ask the bank manager, agronone, notary, credit unions, co-operatives, fieldmen, trust companies and federal loan fieldman for advice. Most groups feel that they can obtain the credit they need. Several forums think that there should be more assistance given to the young man wanting to start farming.

ARDA . . .

What's New In Eastern Canada ?

A COMPREHENSIVE land capability inventory is essential to a program like ARDA which involves resource development and resource allocation. The Canadian Land Inventory, which got under way last summer under the auspices of ARDA, will be a major step toward meeting the need for a fairly detailed, Canada-wide picture of the land resource and what it can produce.

The Inventory will take four or five years to complete and will cost about five million dollars of federal government money, with the provinces providing staff and working facilities. The general objective of the Inventory is to bring together and interpret existing information on land, applying broad classification systems of land use and land capability. Due consideration will be given to land capabilities and limitations for agriculture, forestry, recreation and wildlife uses. Social and economic data will be incorporated into the Inventory, as will climatological data.

For many years, numerous federal and provincial government agencies have gathered data on land, but the data have not always been sufficient for present planning needs, nor have they been co-ordinated. Criteria for collection and classification of data were not uniform. These deficiencies were recognized by the Senate of Canada Special Committee on Land Use and by the "Resources for Tomorrow" Conference, but until the ARDA program got under way no agency was available to handle the major job of co-ordination between the various governments and their resource departments.

The first step toward getting the Inventory under way was taken in November, 1962, when the Canada Department of Agriculture convened a conference of 37 specialists in soil classification, agronomy, land administration, forestry, climatology, geography, land economics, wildlife management, recreation, and urban planning. This meeting and other smaller ones led to a definition of the objectives of the Inventory. In the spring of 1963, National Soil Survey Committee meetings produced a classification system for soil capability for agriculture. On the basis of this, work, involving about 100 specialists, began on the first phase of the Inventory — "Soil Capability for Agriculture".

In the fall of 1963, the Canadian Council of Resource Ministers reviewed the objectives and method of the Inventory, and endorsed it in principle.

Preparations are now underway to establish the essential co-ordinating staff for the whole inventory project.

A vast amount of physical data on land will be accumulated during the next four or five years, and the land will be judged on the basis of its physical and chemical characteristics, slope, stoniness, erosion, and local temperature, drainage, rainfall and the like. Judgments will be further expanded to establish the usefulness of the land for forestry, wildlife production and recreation. Economic and social factors will be incorporated in the data. Sometimes these special data will be very general, but in special areas like rural development areas the data may be detailed.

Collection and correlation of this vast amount of data poses a monumental handling problem. A system of computer mapping is being worked out which holds promise of providing for analysis and synthesis of the data in map or statistical form.

Briefly Stated

A collection of short items of news

WHAT'S NEW IN FILMS

CROSSBREEDING FOR PROFIT

Dollar-and-cents comparisons in market results obtained from crossbreeding different breeds of sheep.

This film presents experiments in sheep raising carried on at the Canada Department of Agriculture station at Ste. Anne de la Pocatiere, Quebec. An exact tabulation is given of the results obtained from crossbreeding the hardy Border Leicester with the North Country Cheviot and with the Suffolk. Results of a two-away cross, three-way cross, four-way cross, and back cross are evaluated in terms of lambing percentage, weight at 28 days, weight at weaning time, weight at market time, and are compared with that of purebreds. Comparisons are also made in dressed carcasses and various cuts of meat. In every instance you see that crossbreeding brings profits — most conclusive results showing at market time when the crossbreeds bring higher prices, and a higher butcher and consumer preference than the purebreds.

16 mm, Black & White, Running Time: 13 minutes. Produced by the National Film Board of Canada for the Canada Department of Agriculture.

May be borrowed from the Extension Film Library, Macdonald College. Service charge .75 cents — transportation extra.

ERLE KITCHEN TROPHY

Pictured here are the four winners of the Erle Kitchen Trophy presented annually at the Royal Winter Fair, Toronto. The trophy is presented to the prize winning senior female with the highest composite B.C.A. index in each of the four major dairy breeds. Front row left to right; owner Mr. P. Veillon of Wendybrook Farms, Sweetsburg, P.Q., whose Jersey, Wendybrook Rose Therese, won in her breed; owner Mr. M. Davie of Ladnor, B.C., whose Guernsey, Del Eden Fond Token, was winner in her breed; owner Mr. D. McIntyre of Finch, Ontario, whose Ayshire, Donholm Cindy's Seven, took top honors for her breed and owner Mr. R. R. Dennis of Oakridges, Ontario, whose Holstein, Cedelmar Reflection Bazel, won in her breed.

Back row, left to right, Mr. Erle Kitchen in whose honor the Trophy is presented by the Dairy Farmers of Canada in recognition of his service with that national organization, and Mr. J. T. Monkhouse, Executive Secretary of Dairy Farmers of Canada. They are holding one of the silver trays given as a momento to each of the winners of the Trophy.

MACDONALD STAFF TO FOOD SCIENCE MEETING

Three members of the Macdonald College staff travelled recently to Natick, Mass., and the U.S. Army Laboratory where the American Food Science Conference was meeting. Professors Neilson and Deveraux of the School of Household Science and Prof. Jean David of the Faculty of Agriculture were interested in obtaining information for the Food Management Option that is offered to Macdonald students in Agriculture and Home Economics.

COLLEGE ROYAL

"Panorama of Macdonald" — that's the theme of this year's College Royal to be held on Friday, February 28th. Special emphasis is being given this year to careers in agriculture, home economics and education. A special slide presentation will be operated during the day for the benefit of the many hundreds of high school students who come to the Royal each year.

Other features of the Royal include practical demonstrations of student projects, displays, livestock showmanship, a fashion show . . . in fact, something for everyone. Circle the date now, for the annual Macdonald College Royal, Friday the 28th of February. More details will appear in next month's issue of the Journal.

PRINCIPALS' TOUR

On December 6, Macdonald College in co-operation with the Kiwanis Club of Montreal was host to a large group of principals and guidance teachers representing schools throughout the Province of Quebec. The day was spent in visiting the various departments on the campus and in meeting members of the staff of the College. Such tours are becoming an annual event here at Macdonald. The assistance of the Kiwanis Club of Montreal is greatly appreciated in this endeavour.

ALDERWOOD TROPHY TO R. R. NESS & SONS

R. R. Ness & Sons Ltd., Howick, Que. won the Alderwood Challenge Trophy for the winning Graded Herd for the second consecutive year at the Royal Winter Fair. Left to right: Miss Carolyn Murray, Martintown, Ont., Canadian Dairy Princess. Mr. J. G. Wilson, Alderwood Farm, St. Valentin, Que. Douglas Ness, Howick, Que. with the winning Graded Herd in the background.

ON THE MOVE

During the latter part of November, several staff members of the Faculty of Agriculture attended the American Society of Agronomy meetings in Denver, Colorado. Dr. Howard Steppler attended the agronomy meetings; Dr. Gus MacKenzie and Dr. Ben Warkentin of the Soil Science Department attended sessions of the Soil Science Society of America, also in Denver.

TREE FARMERS MEET

Professor A. R. C. Jones reports that the Canadian Tree Farmers' Association is making progress in their discussion on the application of grades and methods of marketing of wood products similar to the grading system for other agricultural products. The anuual meeting of the C.T.F.A. this year will be held in Ottawa in early March. Professor Jones and other members of the Department of Woodlot Management also attended a Maple Sugar Workshop in Lowville, New York. They saw many new methods of collecting and processing maple sap.

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THE MONTH WITH THE W.I.

(Continued)

purchased UNESCO Gift Coupon, #367. BROMPTON ROAD held a paper drive; donated stuffed toys to Cecil Butler Memorial Home; made cancer dressings; held card party in aid of School Fair; collected books for West Indies project. LENNOXVILLE enrolled three new members; held Chinese auction to raise funds for UNICEF collectors party; cancer dressings made; assisted at large and successful School Fair. MILBY held paper drive; purchased UNESCO Gift Coupon #367; had a display of polished stones, with jade found in local Moe's River.

STANSTEAD: AYER'S CLIFF Citizenship Convener talked on "Canadians that helped to make Canada. HATLEY were hostesses for County Semi-Annual. NORTH HATLEY sponsored Polio Clinic; held a Garden Contest with Mrs. B. Riley and Mrs. E. Crease winners. Mr. Glen L. Brown, MPP for Brome County, and Parliamentary assistant in the Dept. of Agriculture, was guest speaker on the topic of Separatism. STANSTEAD NORTH observed memorial silence for the late Mrs. A. E. Curtis, one of the founders of this branch, and charter member, who died at age 95, the oldest WI member in this area; purchased Gift Coupon #367; donated school prizes at Sunnyside School; purchased blankets for Christmas gift to needy family; contributed to Quebec Service Fund and Lady Aberdeen Scholarship; catered noon dinner at Stanstead County Plowmen's Association Fall Match; held Cookie contest, with Mrs. E. Hill, winner, and the cookies were served as refreshments. WAYS MILLS held discussions on quality of Quebec potatoes sold in retail stores, concluding that better grading might eliminate the sale of undersized, dirty, wet-rot or dry-rot potatoes; further discussion on the dangers to health of smoking, and the importance of educating young people to this; donation to Dixville Home for Christmas Cheer.

MRS. ELLARD

Many members remembered Mrs. Ellard with cards during her recent illness. There were so many she cannot reply to them personally, but she would like them to know how much she appreciates their thoughtfulness.

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JANUARY 1964

SPECIAL SUPPLEMENT

REVIEW '63 — OUTLOOK '64

by
Dr. C. B. Haver
Dr. F. L. Underwood

Because of the increasing complexity of this business of farming, the staff of Macdonald College feel that an annual outlook statement provides important information on which to base management decisions. The Macdonald Farm & Home Journal takes pleasure in presenting this annual outlook statement.

This specially prepared supplement to the Macdonald Farm & Home Journal is bound separately from the rest of the magazine. It may be easily removed for those who wish to retain it for reference.

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IN BRIEF REVIEW, CANADIAN AGRICULTURE has had a good year. Crop failures abroad have bailed out the wheat farmer from his surplus position, customer demand has absorbed a considerable quantity of abundant beef and poultry meat supplies, dairy production has moved away from surplus products toward those in greater demand, and the government is giving some attention to a feed-grain program. Meantime, efforts are underway to construct development schemes combining farming with other activities to improve conditions in declining or stationary rural areas.

In the longer review, the total farming area has held comparatively stable since 1940 with a one-third reduction in number of farms, an increase in the proportion of cropland, and a reduction of 45 percent in the farm labor force. Meanwhile, productive livestock has been increased 20 percent to more than absorb the decline in number of horses. Area expansion with reduced labor has been brought about by an increase of 2.2 times in the number of machinery units, mainly large-scale motorized crop-production and harvesting equipment.

The immediate outlook is for an expansion in those lines that have proven profitable in the immediate past. Canadian population growth and satisfactory industrial activity will be expected to care for an expansion of two percent or more in agricultural products on the domestic scene.

Foreign markets are problematical. An immediate and startling recovery of Asian grain production is hardly to be expected, but we are assured of vigorous efforts in that direction which are likely to bring results sooner or later. The European common market area holds a definite policy of self-sufficiency and other European countries seem to be moving in a similar direction. Exporting large volumes of agricultural products to the Americas, or to Africa except on an aid basis, is hardly to be hoped for in the near future.

The outlook is that long run trends in Canadian agriculture will continue. Faced with an almost prohibitive situation in which labor costs are six times their prewar rate, farmers are sure to adopt all the improved cost-reducing practices they can apply, or die in the attempt. This means that many farmers will continue to go out of business and their holdings will be combined with others into larger units. Commercial farming will become more commercialized and for some types more integrated with some form of city business in order to meet capital requirements and divide the risk. Conversely, areas in which farms fail because of increasing scale commercialization, will experience an increase in part-time units and look to area development programs for survival.

Prices of farm products for the most part will fluctuate around immediate past levels, with two exceptions: general increases in dollar terms will follow general price level increases, and differentiation will occur to correspond with changing consumer habits. Starches and fats will continue in disfavor and protein and protective food product will be favored. Tobacco may in time succumb to the health scare, but the flags seem to be slow in going up.

Costs will continue to rise, labor outstripping other inputs. Emphasis will continue on the effort to bring labor efficiency in livestock production to a par with that so far achieved in crop production. Workers in the younger generation will continue to pour out of agriculture and re-training programs will gain in importance. The average age of the farm-operator group will continue upward and induce a stimulus to business integration to make it possible for enterprising younger men to gain control of enough capital to enter farming.

REVIEW '63 — OUTLOOK '64

Introduction

HEREIN WE SHALL APPRAISE the Canadian farm and non-farm situation in 1963 and the outlook for 1964. The prospects for continued expansion of general economic activity in the Canadian economy are good. However, despite the record high Canadian farm production and the high value of Canadian farm exports in 1963, farm income is likely to be lower in 1964. The key to this paradoxical situation is the uncertainty shrouding the wheat market. It is unlikely the Canadian prairies will duplicate their production feat of 1963 even with the likelihood of increased acreages planted to wheat. Unless very fortuitous changes occur in the United States farm program concerning wheat, production there will substantially increase, and U.S. and world prices are projected to fall drastically. It is unlikely that the Canadian Wheat Board will offer initial prices plus further payments that will exceed those offered in the United States. Indeed, the Board normally has contracted for prices lower than those set as the maximum under the International Wheat Agreement. The outlook for total farm income, therefore, is highly dependent on wheat.

Farm production in Canada in 1963 increased 8 per cent over the previous record year of 62. Much of this gain can be attributed to wheat; however, beef production was also up, milk production has stayed relatively constant, and hog production has decreased in 1963.

Canadian cash farm income has been estimated in 1963 as $3.2 billion, and while farm operating expenses plus depreciation were also up in 1963 to $2.2 billion, these higher expenses were more than offset by inventory gains and higher cash income. Thus farmers are left with a total net farm income of $1.7 billion — up $100 million from 1962. The cash income picture for 1964 is favourable due to the strong inventory position of farmers; however, it is anticipated that rising costs combined with no appreciable change in expected gross income will result in a lower prospective net income to Canadian farmers. The bouyant and relatively healthy non-farm economy continues to attract surplus farm labour. It is anticipated that the number of people employed in agriculture and the numbers of farmers in agriculture will continue to decline; therefore, the per capita farm income will continue close to the levels attained in 1963.

General Economic Prospects

THE GENERAL ECONOMIC OUTLOOK for the Canadian economy in 1964 is good. A continued moderate advance characterizes the expectations for the non-farm economy in the year ahead. In the last two years GNP has grown rapidly; however, the average growth in the last 10 years is lower than most economists feel is needed for a healthy, growing economy. The GNP for Canada in '62 exceeded that in '61 by 8 per cent. Similarly in '63 GNP exceeded '62 by 6 per cent. For various reasons we anticipate that '64 will exceed '63 by at least 4 and as much as 6 per cent. That is, we are projecting a bouyant growing non-farm economy in 1964. This growth is due to a number of considerations, some of which have been with us for a number of years, others are new. Earlier in '63 it was anticipated that some downturn would occur this fall; however, various considerations such as the $500 subsidy per house start has initiated a rush to build and is one factor in the present relatively low seasonal unemployment. In some quarters the increase in employment now suggests that we may have more seasonal unemployment next summer; however, this "gadget" instituted to reduce winter unempolyment and thereby even out the employment pattern should not have the effect of reducing total employment over the year. Indeed, it should have the effect of making certain types of labour available that might not otherwise be available during the summer months and thereby increase total employment.

Certainly the Russian and Chinese wheat deals combined with our continued foreign exchange rate pegging and various suggested taxes both in Canada and the United States have temporarily, at least, improved Canada's exchange reserve position. In adidtion, the threat of an interest equalization tax in the United States to minimize capital outflows, along with an apparently tacit agreement to more nearly equalize the interest rates between the two countries, has had the effect of creating an easy-money policy in Canada, and has made us follow an expansionist route whether our monetary authorities wanted to go that way or not. Indeed, our present position has had a psychological effect in addition to the foreign exchange effect that has gently nudged us into an expansionist position. As long as exchange rates were pegged and interest rates were held down, the money supply literally had to increase, as it has. There has been some pressure on the price level; indeed the consumer price index as well as other cost indexes have moved gently upward. However, the full effect of the monetary expansion has not been felt due to the high level of unemployment and over-capacity that existed in the economy.

For the coming year it is difficult to sort out the potential effects of certain fiscal and monetary gadgets that the current government has recently imposed or proposes to impose. However, one important determinant arising externally, namely, the announced impending but as yet unpassed U.S. tax cut, has had considerable effect. The current bouyancy of that economy and our own is partly due to the business community reacting favourably to this anticipated cut. The actual effect of the cut when it does materialize may not be as great as expected because we

have already anticipated some of its benefits. If perchance the tax cut did not materialize, the optimistic projections for the North American economy would certainly be dampened. In Canada proposed tax increases may well go by the board; indeed, they may not be needed with continued growth of the economy. Too, it is doubtful whether we would move counter to United States monetary and fiscal policy. The effects of increasing taxes rather than decreasing or leaving taxes constant might be extremely detrimental to our business community under such circumstances.

Conditions in the general economy of the year ahead unfortunately will not have a great impact on Canada's agricultural community. The total demand for farm products in our domestic economy will increase by an amount roughly equal to the population growth rate — namely, 2 per cent. The low income elasticity of demand for agricultural products essentially neutralizes any income effect for agriculture. Thus, while GNP for non-farm products will increase roughly 6 per cent, farm products are likely on the average to increase only 2 per cent. Individual commodities, however, will experience differential growth rates, and certain commodities — namely, those enjoying export markets — have their economic base geared to the world economy, where population growth as well as income growth will be effective in stimulating demand.

Farm Business Situation

THAT BUNDLE OF ASSORTED PRODUCTS which before the war the Canadian farmer sold for $100 is now bringing about $250 ($249, Table 1). In 1962, it sold for $264. This would represent a sizeable improvement in income if costs had remained the same as before. If costs had risen only as fast as the prices of farm products, the farmer would not be worse off. Unfortunately, neither situation has prevailed.

To stay in business — just to keep on producing — the Canadian farmer in 1963 has had to pay nearly $300 ($296, Table 1) for what he could buy for $100 before the war. For production purposes, his 1963 income dollar was worth only 84 cents in comparison to its pre-war value. This meant that the remaining 16 cents had to be made up by increased efficiency or taken out of his living.

TABLE 1

Comparative Price Indexes Affecting the Canadian Farmer in his Business.

Period	*Prices Rec'd for farm products*	*Prices paid for items used in —* *Production*	*Family Living*
1935-39	100	100	100
1951-55	258	238	204
1956-60	242	262	215
1961	261	282	224
1962	264	291	228
1963p.	249	296	237

p. Preliminary; based on the ratio of Jan.-Sept. 1963 to the same period in 1962.

SOURCE : Dominion Bureau of Statistics

Taking it from his living costs was not too easy, for these too had risen. Sixteen dollars of pre-war production-cost values would have been equal to a reduction of $38 in his 1963 living level. On the whole, both production and business efficiency have improved in Canadian agriculture. But farmers that have been unable to overcome the cost-income price disadvantage by increased efficiency have suffered a setback in their standard of living.

The price disparity of recent years has not borne equally on all farmers, for the cost prices of items used in production have not all changed alike. Farmers engaged in lines of production that required relatively more of the inputs that have risen most in price have suffered the greater disadvantage.

TABLE 2

Price Indexes of Selected Production Items used in Canadian Agriculture

Period	*Farm Wage rates*	*Building Materials*	*Machinery, fuel, etc.*	*Feed and seed*	*Fertilizer*
1935-39	100	100	100	100	100
1951-55	438	305	182	216	105
1956-60	516	323	206	196	186
1961	566	324	220	203	195
1962	576	326	225	226	194
1963p	601	334	227	219	202

p. Preliminary; based on the ratio of Jan.-Sept. 1963 to the same period in 1962.

SOURCE : Dominion Bureau of Statistics

For example, a day of hired farm labor cost six times as much in 1963 as before the war (Table 2 and Figure 1). Building materials were 3⅓ times as high as before the war. In pre-war buying power, the farmer's 1963 income dollar was worth 41 cents for hired labor and 75 cents for erecting and maintaining buildings. Aside from marketing considerations, the cost situation alone would discourage expansion of such a business as dairying, wherein expansion is an important means of gaining efficiency. Any labor-intensive business would be strongly discouraged.

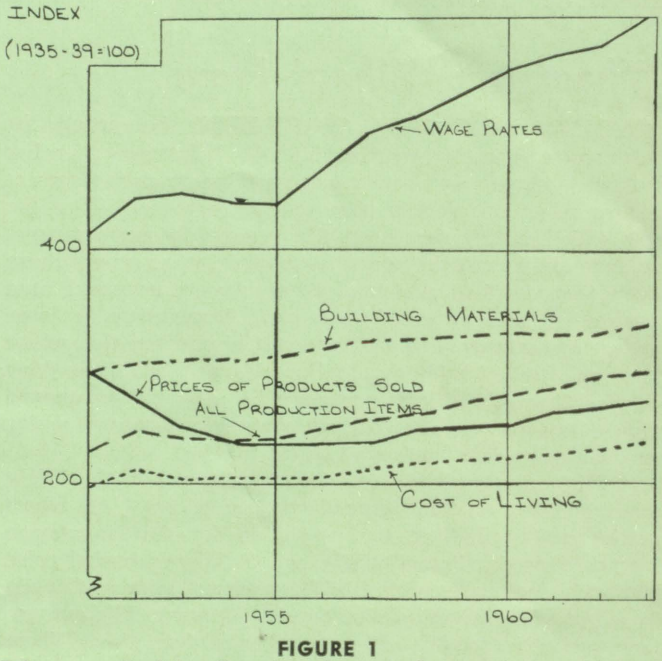


FIGURE 1

Prices received by Canadian farmers for products sold, and prices paid for items used in production and for family living. (Index numbers: 1935-39 = 100).

On the other hand, extensive types of crop-producing businesses have been more favorably situated. The pre-war buying power of the farmer's 1963 income dollar for power and machinery — implements, tractors, hardware, fuel, and lubricants — amounted to $1.10; for seeds, it amounted to $1.21; and for commercial fertilizers, $1.23. These figures do not implicate industry in the cost-price squeeze binding the Canadian farmer. Direct costs of bankers' and government services likewise are exempt in this connection, for in paying taxes and interest charges the farmer's 1963 income dollar was worth $1.09 as compared to pre-war.

Besides increased efficiency or going out of business, farmers generally have an unwanted additional alternative in holding up their levels of family living. Inasmuch as health, recreation, and personal use of transportation have risen more in cost to consumers than have the prime ne-

cessities of food, clothing, and housing (Table 3), the dollar for family living could be stretched by more severely restricting its use to the basic necessities and foregoing some of the 'plus' values of medicine, personal care, recreation, reading, and travel. Though this is unattractive, it has been the last resort of some families in order to survive as farmers. Some of the time thus saved has been devoted to off-farm work for supplementary income by some family members.

TABLE 3

Canadian Consumers' Price Indexes.

Period	*All Items*	*Food, housing, clothing*	*Health, recreation, transport*	*Tobacco and Alcohol*
1949	100	100	100	100
1951-55	116	114	118	109
1956-60	124	119	138	112
1961	129	123	147	116
1962	131	125	149	118
1963p	133	127	150	118
1963/1935-39*	214	206	241	190

p. Preliminary; based on the ratio of Jan.-Sept. 1963 to the same period in 1962.

* *Estimated for 1963 on the basis of 1935-39 = 100, by dividing the 1949-based figure by the simple average of the years 1935-39.*

SOURCE: Dominion Bureau of Statistics

Wheat and Wheat Flour

CANADA HAS JUST COMPLETED harvesting the largest wheat crop in its history. This large crop has followed one of our largest exporting years and comes at a time when our export commitments are high. Thus the 1.2 billion bushels on hand this winter do not represent as formidable a price depressing element as might have been the case had this bumper crop year occurred at a time other than when Canada was favoured with large export commitments to Russia and China. Canadian wheat farmers, flushed with the high yields and relatively high returns from the 1963 crop may be expected to expand their wheat acreage. There is no obvious government policy to discourage increased production in 1964.

The only ominous element in the seemingly bright wheat picture is the impending change in U.S. wheat pricing policy. Indeed, the prediction for that country is increased production of wheat and $1.25 per bushel price level. This compares with the Wheat Board price in Canada in recent years hovering close to the $2 mark. The average farm price is roughly 35 cents lower than this. Wheat farmers and Canadian government wheat policy people do not apear to be concerned with this impending change in U.S. wheat policy. Perhaps it is their expectation that while the policy change appears imminent, the possible effects are so dire that they anticipate that the U.S. programme will change before these dire expectations are realized. Certainly $1.25 wheat in the U.S. and the effect of that $1.25 wheat in the world markets if such a price materializes, will have a devastating effect on Canadian wheat producers and on our economy.

It is difficult to project with any certainty the world wheat picture in 1964. About the only certainty that one can project for Western Canadian wheat is that farmers will at least receive the initial payment, and whether they realize more than this initial payment will depend on the outcome of U.S. wheat price policy.

Canada's extraordinary wheat sales to China and Russia were brought about by their crop failures. However, the demand in those countries for storage supplies and increased consumption, based upon increased income and population, is outstripping their own ability to meet domestic needs, and in the case of Russia, export commitments. Thus, the Canadian wheat farmer has every right to expect some continued demand for his product in these countries. Further, while our own wheat production reached an all-time historic level in 1963, world wheat production was down over 400 million bushels — an amount that exceeds our normal exports. Also, while the European Common Market agricultural tariffs have been such that our wheat and flour market there has been and is likely to be curtailed somewhat in the short-run, the long-run prospects in that market appear favourable. The market for wheat in Japan and certain European non-Common Market countries has been growing and is projected to continue to grow in 1964 and the years beyond. Canada's own domestic market possibilities are not projected to expand appreciably, nor are we likely to enjoy any increase in exports to the U.S. This will be particularly true if downward price adjustments materialize there.

In summary, the wheat market picture is a cloudy one. Canadian wheat farmers will be protected from price variation by the Canadian Wheat Board, but if U.S. production and stocks are released onto the world market, as is projected in that country for the coming year, Canadian wheat prices and wheat farmers' incomes may be expected to fall in 1964.

Coarse Grains

Oats and other coarse grains acreage in Canada declined somewhat in 1963 partly due to the increased wheat acreage. However yields, and thus 1963 production, exceeded expectations. The carry-over from 1962 when yields and total production were large is still partially with us, thus the total supply situation is higher than that of any recent year. Prices are expected to remain favourable, partly due to a change in feed grain transportation and storage subsidy rulings and partly due to decreased availability of feed wheat.

Oats

The oat harvest on Canada's 9.5 million acres in 1963 was 50 million bushels under a year earlier; however, the carry-over position is such that total supplies on hand exceed those of a year ago. Exports of oats in recent years have roughly amounted to 5 per cent of our production; thus, even if exports were to double, (20.6 million bushels were exported in '62-'63), our oats position would remain satisfactory. Prices are not likely to change much this year, and indeed it is this relatively low price situation that may reduce 1964 plantings in the west. Other factors in the east such as the continuing and more extensive freight assistance policy on feed grains will have the effect of driving more and more eastern acreage out of oat and other feed grain production. Thus the prospects for oats in '64 should be for prices as high or higher than '63.

Barley

The great bulk of Canada's 6.1 million acres of barley is located in Saskatchewan and Alberta. Total production in '63 was 221 million bushels, and with the carry over of roughly 90 million bushels, total supplies are 310 million bushels now — well ahead of the two previous years. Exports of barley are down from the 35 million bushels, which has been our average export, to 10.5 million in the '62-'63 period. The export situation appears brighter this

year because of Europe's poor crops. Exports in recent years have taken one-quarter to one-third of our annual production, however in this past year took only five per cent. The supply situation for barley alone would suggest no particular price-increasing pressure. Indeed, the situation is such that prices could weaken, especially in view of the fact that the corn supply in Canada is favourable and imports of U.S. corn have been occuring in a more regular and growing fashion.

Corn

Corn acreage, particularly in Eastern Canada, increased very substantially this year; it was up 25 per cent over the previous year. Yields, however, were down, and total production was only 3 million bushels ahead of a year ago. Imports in the last two years have about equalled Canadian production and, due to relatively low corn prices in the U.S., it is likely that this import trade will continue to grow. For instance, the '51-'56 overage imports of corn were 5.5 million bushels, but in '61-'62 we imported over 30 million bushels. The overall supply situation for feed grains in Canada is higher than a year ago. Prices for these feed grains have remained stable, partly due to the strong demand for wheat for human consumption. The prospects are that during the coming year, feed grain prices will not change appreciably. Thus the producer of feed grains may anticipate prices for his product similar to those which he experienced this year, and the user of feed grains may anticipate that his costs will be similar to what he has experienced in the immediate past.

Conditions will get worse in the dairy industry before they get better if the present trend to more government intervention continues.

Dairy

DURING 1963 DAIRY PRICE policy moved increasingly into more politically oriented realms. A number of provincial and federal milk marketing proposals are in the offing. Some of these may find partial implementation in 1964. On May 1st, 1963 the Federal Government changed the basis of its dairy supports from 12 cents a pound consumer subsidy on butter to 14½ cents a pound subsidy on butterfat, the latter subsidy to be paid on that butterfat derived from manufacturing milk. Thus the Federal Government denied the butterfat subsidy that formerly went to fluid milk producers who produced milk in excess of fluid milk requirements, and essentially denied the butterfat subsidy from going to butterfat used in such uses as ice cream. Thirty cents per hundred pounds of milk was restricted to manufacturing milk used for skim milk powder and cheese. Thus federal subsidies to dairying were decreased somewhat during the year, and it may be anticipated that in 1964 the Federal Government will be devising further schemes that minimize federal subsidies to dairying while at the same time, the Government will be exercising its persuasive power to encourage the provinces, particularly Ontario and Quebec, to develop internal programmes that will reduce the amount of surplus milk and butterfat being produced. The current butterfat subsidy still prices butterfat at an unrealistic 64 cent support level, a level that has been maintained since 1958. On October 1st, 1963 butter and butter oil stocks in Canada were 269 million pounds compared with 261 million pounds a year earlier. This in turn might be compared with the 90 million pounds that constituted our total stocks in October 1957, before the 64 cent support price became effective. The effect of the consumer subsidy this past year has been to essentially stabilize the butter stocks position. That is, the effective selling price of 52 cents per pound for butter has moved current butter production into consumption, at an annual cost to the treasury of $40 million. The Federal Government has two problems of course: first, what to do with the 269 million pound stock of butter on hand which will not move domestically at present prices; and second, the question of whether the government can justify subsidizing producers and consumers to the extent of $40 million a year.

The National Dairy Conference of last February was non-productive of direct results unless one can attribute the subsidy arrangements of last May to this conference. Dairy policy apparently is coming under much internal review. Both Quebec and Ontario, the latter particularly, are intensively reviewing their own provincial policies with a view to ascertaining "whither goest the dairy industry?"

Total milk production in 1963 increased very slightly to 19.3 billion pounds, a less than 1 per cent increase (see Table 4). This leveling off in production is a good omen, for if the 3 and 4 per cent annual increases that we have experienced in previous years were to continue, dairy farmers would have found themselves in an increasingly difficult cost-price squeeze situation, with no relief on the price side and with increasing costs. Commercial fluid milk sales increased, and apparent per capita consumption has held constant. Milk prices increased somewhat during 1963 due mainly to more favourable manufacturing milk prices and it is anticipated that if milk production will hold constant in 1964 as we herein project, further modest upward price adjustments will be realized by dairy farmers. Consumption of fluid milk will increase roughly 100 million pounds in 1964 (merely the net population adjustment). Milk going into ice cream, cheese, evaporated, dry whole and skim milk powders will also increase, thereby relieving downward price pressures on butterfat and other manufacturing milk products. In 1963 cheddar cheese production increased 16 per cent to a total production of 135 million pounds. Exports to the U.K.took nearly 27 million pounds and domestic consumption absorbed 101.5 million pounds. Allowing for domestic production of other cheeses and imports, we find that our increased 1963 production went into stocks. An even greater diversion of milk into cheese production is projected for 1964. Some downward price movements are anticipated for cheese, but no serious price

breaks are expected. Exports are projected at slightly above '63 levels and domestic consumption may be expected to increase modestly.

Because of the secular decline in the consumption of butter and dairy products in general (with notable exceptions), the future of the dairy industry is sometimes described as difficult or acute. We do not subscribe to this position. It may be true that there are considerable excess resources in dairying, particularly excess human resources, but this situation — the excess human resources in agriculture and in dairying — would move more rapidly toward adjustment if restrictive institutional arrangements did not plague the industry. On the provincial level what is needed is removal of preferencial arrangements for fluid milk producers. There is no place for two-price milk of similar quality. The quota system characteristic of fluid milk markets inhibits farm size and herd size adjustment, and promotes the production of excess milk. Fluid milk pricing is one of the main offenders contributing to the production of excess milk as well as preventing farm size adjustments. Butter levels are pricing butter out of the market while at the same time encouraging the maintenance of excess resources in the production of butterfat. A gradual downward adjustment in butterfat prices would reduce government outlays, lower manufacturing milk prices, and encourage the diversion of such milk into other uses, or encourage the shift of these resources into activities other than dairying.

TABLE 4

Milk : Production and Utilization in Canada, 1951-1963

	Average 1951-55	*Average 1956-60*	*1961*	*1962*	*estimated 1963*
Fluid sales	4,634	5,497	5,814	5,950	6,060
Consumed on farms	1,065	1,084	1,036	1,013	1,010
Creamery butter	6,893	7,435	8,240	8,459	8,190
Dairy butter	468	273	194	158	115
Cheddar cheese	880	1,085	1,308	1,282	1,490
Other cheese	69	115	135	147	160
Concentrated milk	876	992	1,031	947	970
Ice cream	492	632	650	526b/	480
Fed to livestock	642	674	768	817	800
Total a/	16,026	17,800	19,199	19,324	19,275

a/ Includes milk used in creamed cottage cheese.
b/ Excludes butter used in ice cream.
SOURCE : 1964 Outlook materials, Canada Dept. of Agriculture.

The nature of our historic farm settlement pattern and economic environment has led to the development of many small dairy farms. Far sighted government policy now might well be directed towards aiding these farmers in consolidating and redirecting their resources into the production of beef. The ARDA programme might direct some of its efforts toward providing dairy farmers with community type pastures that would essentially provide these farmers with the additional acreage that would make conversion to beef production feasible. The dairy problem of the next few years is manageable, but it will require vigourous action from a number of different vantage points to resolve it. The key to the solution of the problem of this vast and important Canadian industry is to free it from the many restraints that have distorted the industry and prevented adjustment on farm and in the factory. Our crystal ball indicates, unfortunately, that the planners, farm leaders, and even the processing industry leaders suffer from a peculiar myopia that, in the short-run at least, may lead us into more government intervention rather than less. Thus we predict things will get worse in the industry before they get better if the present trend to more government intervention continues.

Continued price weaknesses in beef cattle markets is projected till the fall of 1964.

Beef Cattle and Calves

A RECORD CALF CROP was produced in Canada this year and cattle numbers are at an all-time high. Pasture conditions particularly in the West, have been above average, and 1963's cattle numbers and optimism have been based on the very successful and high-priced feeder cattle market of 1962. As one might expect, the large number of feeder cattle that went into feed lots in the 1962-63 season created a large supply of finished beef, and consequently lower prices and generally unsatisfactory returns to beef feeders across the country. Thus the 1963 fall markets have experienced substantially lower feeder cattle prices; however, the price adjustment has probably not been enough when compared with the present level of feed grain prices to make feeder cattle finishing very profitable in the coming year. The best bets for reasonable returns would be long-feed calves rather than any of the shorter-feed older animals.

Meat supplies this year exceeded 1962 by roughly 5 per cent; however, beef supplies are 10 per cent greater. Even pork supplies exceeded 1962; production was slightly less and imports have been greater. Veal production was slightly under 1962 as was mutton and lamb production. The total domestic disappearance of meats in Canada rose to 2.2 billion pounds, indicating a small increase in per capita consumption of red meats. The outlook for 1964 is for some leveling off in the production of meat. and the total supply in all likelihood will approximate that available in 1963. Beef herds have been culled and liquidated to some extent in '63 due to lower prices and diminished returns, but a full adjustment did not occur thanks to above average feed and pasture supplies. Any downturn in these conditions, which are not likely to be duplicated in 1964 will surely bring additional herd adjustments into the market place.

The Canadian cattle market situation continued to be strengthened by the heavy drain of cattle that occurred in 1962, namely, the exports to the United States market. Our dollar devaluation programme still continues and while Canadian cattle did not represent the bargain that they were in 1962, they continued to be reasonably attractive in '63. It is likely that this situation will continue throughout 1964. The cattle marketing in Canada have been on a steady increase since the early 1950's. The same has been true of the United States. While the past year has represented a set-back for many cattle feeders, the adjustments have not been severe enough to indicate a leveling

off or break in the cattle cycle. Indeed, the growth of cattle numbers has been such that the cycle appears to have been postponed.

Marketings of veal calves are not expected to increase in 1964. The national dairy herd declined slightly in 1963 and is expected to decline further in 1964. Veal calves emanating from dairy sources therefore, are not likely to increase. Veal supplies are projected to be similar in '64 and prices may be slightly stronger. The seasonal price pattern will continue as has been the case in the market.

Thus we project continuing price weakness in beef cattle markets to and through the fall of 1964. Finished cattle will be marketed through the winter and spring months at price levels slightly higher than those of a year ago. Prices for feeder cattle in the fall of '64 at this juncture would appear to be no higher than has been experienced this fall and may even be lower. But unless other factors enter the picture before that time, these cattle should represent a good feeding opportunity. Two years of relatively low returns to feeder cattle finishing should dampen the ardour of enough feeder cattle finishers so that the demand for feeder cattle will be weak, and the supplies of finished cattle in the following year will be relatively low and prices should be favourable. Net returns, of course, will depend upon not only favourable prices, but also on costs, and it is a little too early to predict anything very positive in this direction. A significant change in the U.S. cattle situation could affect our forecast, and any further manipulation of the value of the dollar would similarly affect cattle prices. For instance, another devaluation which surely is unlikely, would increase prices, whereas restoration of the dollar to par with the U.S. dollar (and this is a possibility) would substantially cut Canadian beef prices.

In the next nine to twelve months, hog prices will undoubtedly fall below the national support level of $23.65 per cwt. for grade A's.

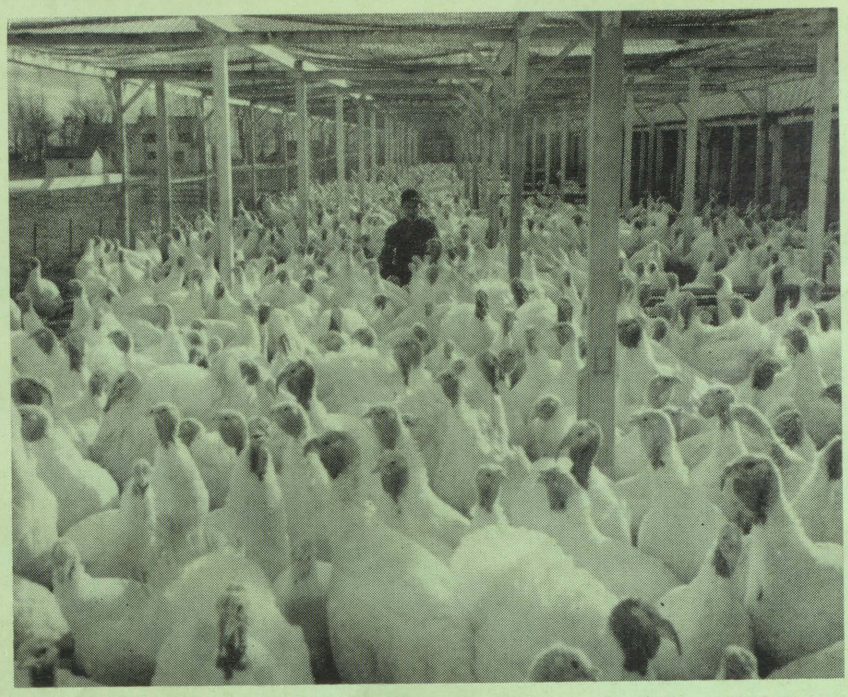
Hogs

THE CANADIAN HOG PRODUCTION picture has been altered by certain factors that upset the typical hog price cycle. The Agricultural Stabilization Board continues to be an important element backing hog prices, but for the third year in a row, the average national price has exceeded the national support level of $23.65. However, the outlook for continued high prices for hogs in Canada seems to be at an end. Prices this fall are off roughly $3 from those of a year ago due in part to increased hog marketings in both Eastern and Western Canada and increased supplies of beef. The West has returned to the hog production picture due to favourable feed crops these past two years. However, the prosperity generated by the largest wheat crop in Western Canada's history is likely to dampen further production of hogs in the West at a time when other conditions are such that one would anticipate increased production from that sector. The low at a time when other conditions are such that one would prices currently being received are likely to continue into the spring and summer of 1964. However, for the great majority of hog producers, the Agricultural Stabilization Board payments will keep returns at a reasonably favourable level. These payments may be lagged considerably — enough to deter farmers in their hog breeding plans. Thus '64 spring farrowings are projected to be reduced as are farrowings scheduled throughout the coming year. Therefore, prices above the support level are again projected to prevail during the fall of 1964 and beyond for at least a year.

Eastern Canada has expanded Hog production during the past two years in response to higher hog prices. However, high feed prices generated partly by the feed shortage in 1961 have cut into hog profits these past two years. The economy did not get the rapid build-up in hog numbers that normally would have occurred in response to the favourable prices that hog producers have been receiving. Even at the present time, pork supplies are only slightly greater than a year ago; however, increased marketings are rapidly changing this position.

The currency devaluation did not aid Canadian hog producers directly by stimulating hog and pork exports largely because Canadian supplies of hogs and pork were relatively low, and prices here were such that exports were not stimulated; indeed, the opposite was the case. In 1963 we imported 82 million pounds of pork. The currency devaluation did indirectly aid hog prices by substantially cutting beef supplies (62 exports), thereby raising beef prices, thus indirectly strengthening the demand for pork and hogs.

The national average price until the fall of 1963 has exceeded the support level; however, in the next nine to twelve months, prices will undoubtedly fall below this level, and the Agricultural Stabilization Board will be issuing deficiency payments. One would expect under the Agricultural Stabilization Board to see the hog market return to a relatively volatile market, subject to the forces of supply and demand. The producer will receive price protection on only the first 100 Grade A and B carcasses produced; after that, he will be at the mercy of the market. For the past three years, the Agricultural Stabilization Board has not had to make deficiency payments on hogs, but we expect that 1964 will see the issuance of such payments. Apparently factors have been such in this market that with the stabilization measures now used, farmers really have not returned to their old pattern of reaction to freely determined market prices. It is anticipated that barring further changes in insitutional arrangements, that that time has now arrived. Therefore, the hog producer must be wary, particularly if he is one of those producers who markets over 100 Class A and Class B carcasses per year.



There will be increased turkey production in 1964, prices will be similar to those of 1963.

Eggs and Poultry

PROSPECTS FOR THE POULTRY INDUSTRY in Canada in 1964 are mixed. Egg production during the early months of 1964 is expected to be less than the corresponding period in 1963 and prices will be correspondingly higher. However, layer replacements have been heavy and poultry men may anticipate substantially increased egg production next summer and fall with correspondingly lower prices than has been the case during the fall of '63. The Agricultural Stabilization Board has been active in making certain subsidy payments to aid producers; namely, payments on the first 4,000 dozen eggs produced. However, the subsidy payment has been negligible, and the seasonal and cyclical pattern of egg production and egg prices has continued. This, of course, is what a deficiency payment scheme is designed to facilitate. However, the payments under the scheme have not appreciably enhanced egg producers' income.

Another large turkey crop is in prospect. Prices have been very low this past season, but this turkey production is still in a state of flux. There are apparently considerable economies to be realized by large-scale production, and the entry of new producers and the expansion of old producers seems illicit production that defies the normal adjustments that one would expect in the production and price cycle of turkeys. Therefore we project increased production and prices in 1964 similar to those experienced in 1963.

Chicken broiler production is in a similar state of flux. Prices appear to be low, but production continues to advance. More of the same is projected for 1964.

WHAT DO YOU THINK?

Considerable research has been done in order to prepare this Review and Outlook for your use.

You probably found some of the prospects for the coming year rather startling. We would like to hear your reaction to the ideas expressed in this report, and will welcome your letters. Send them to Outlook Editor, Macdonald Farm & Home Journal, Dept. of Extension, Box 237, Macdonald College, Quebec.

If you would like additional copies of this report, they are available at 25¢ each from the above address.